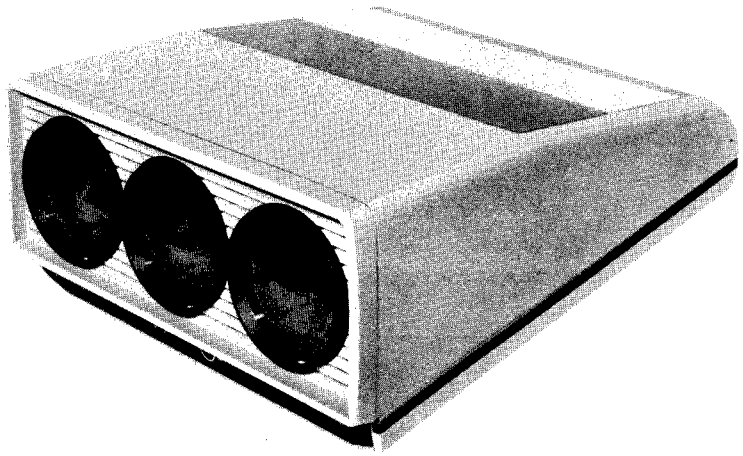
VPH-722QM/1020QM

SERVICE MANUAL

AEP Model

VPH-722QM
Chassis No. SCC-482A-A
VPH-1020QM
Chassis No. SCC-483A-A



July, 1983

SPECIFICATIONS

Optical

Projection system	3 picture tubes, 3 lenses, direct projection system
Picture tube	5.5-inch high-brightness monochrome tubes, with coolant sealed
Projection lens	High-performance acrylic lenses F 1.0/130 mm
Projected picture size	VPH-722QM: 72 inches measured diagonally VPH-1020QM: 100 inches measured diagonally
Picture brightness (obtained with a curved screen of gain 12)	
	VPH-722QM: More than 130 fL VPH-1020QM: More than 65 fL
Throwing distance	VPH-722QM: Approx. 2,480 mm (97 3/4 inches) VPH-1020QM: Approx. 3,368 mm (132 3/4 inches)
Viewing distance	VPH-722QM: 3 to 20 m VPH-1020QM: 4 to 25 m

General

Color system	PAL, SECAM, NTSC and NTSC$_{4.43}$ systems, switched automatically
Resolution	More than 600 TV lines (RGB inputs) More than 400 TV lines (video line inputs)
RGB inputs	Character display capacity: 2000 characters (80 letters × 25 lines) Horizontal frequency: 15.75 kHz Vertical frequency: 60 Hz
Test signal	Cross-hair/crosshatch test pattern generator is incorporated
Speaker	Approx. 5 × 9 cm (2 × 3 5/8 inches), 2 units
Power requirements	VPH-722QM/1020QM: 220–240V ac, 50/60 Hz
Power consumption	VPH-722QM/1020QM: 155W (max.)
Dimensions	Approx. 508 × 258 × 582 mm (w/h/d) (20 × 10 1/4 × 23 3/8 inches) with the brackets pushed down, incl. projecting parts and controls
Weight	Approx. 26 kg (57 lb 5 oz)

Inputs

Signal	Connector	Signal level	Remarks
Video input	[VTR] 8-pin (pins 2&6)	1V (p-p)±0.2 V	PAL/SECAM/ NTSC/NTSC$_{4.43}$ 75 ohms sync negative
	[VIDEO] BNC connector		
	[RGB IN] 5 BNC connectors	Non-composite RGB: 0.7V(p-p) ±0.15V or TTL level Sync: 0.5V(p-p) to 6V (p-p)	75 ohms, sync negative
Audio input	[VTR] 8-pin (pins 1&5)	−5 dBs (436 mV rms)	47 kilohms
	[AUDIO] minijack		

— Continued on next page —

MICROFILM

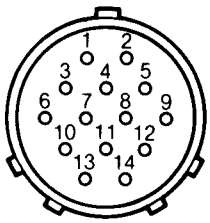
COLOR VIDEO PROJECTOR

SONY®

MON

REMOTE connector

14-pin plug
For connecting the
VPR-722 remote controller



Pin No.	Signal	Pin. No.	Signal
1	Ground	8	Input select
2	+28V⎓60mA	9	Audio (incl. volume control)
3	Hue 1	10	Brightness
4	Hue 2	11	Sharpness
5	Hue 3	12	Color
6	Video	13	Picture
7	Ground (video)	14	Power ON: 12V OFF: 0V

Accessory supplid AC power cord
Optional units/accessories
Remote controller VPR-722
Projector pedestal SU-722
Projector suspension support PSS-722
Video screen VPS-100F1 (100" flat)
VPS-72HG1 (72"curved)
VPS-100HG1 (100" curved)
Carrying case VLC-722
CCQ cables

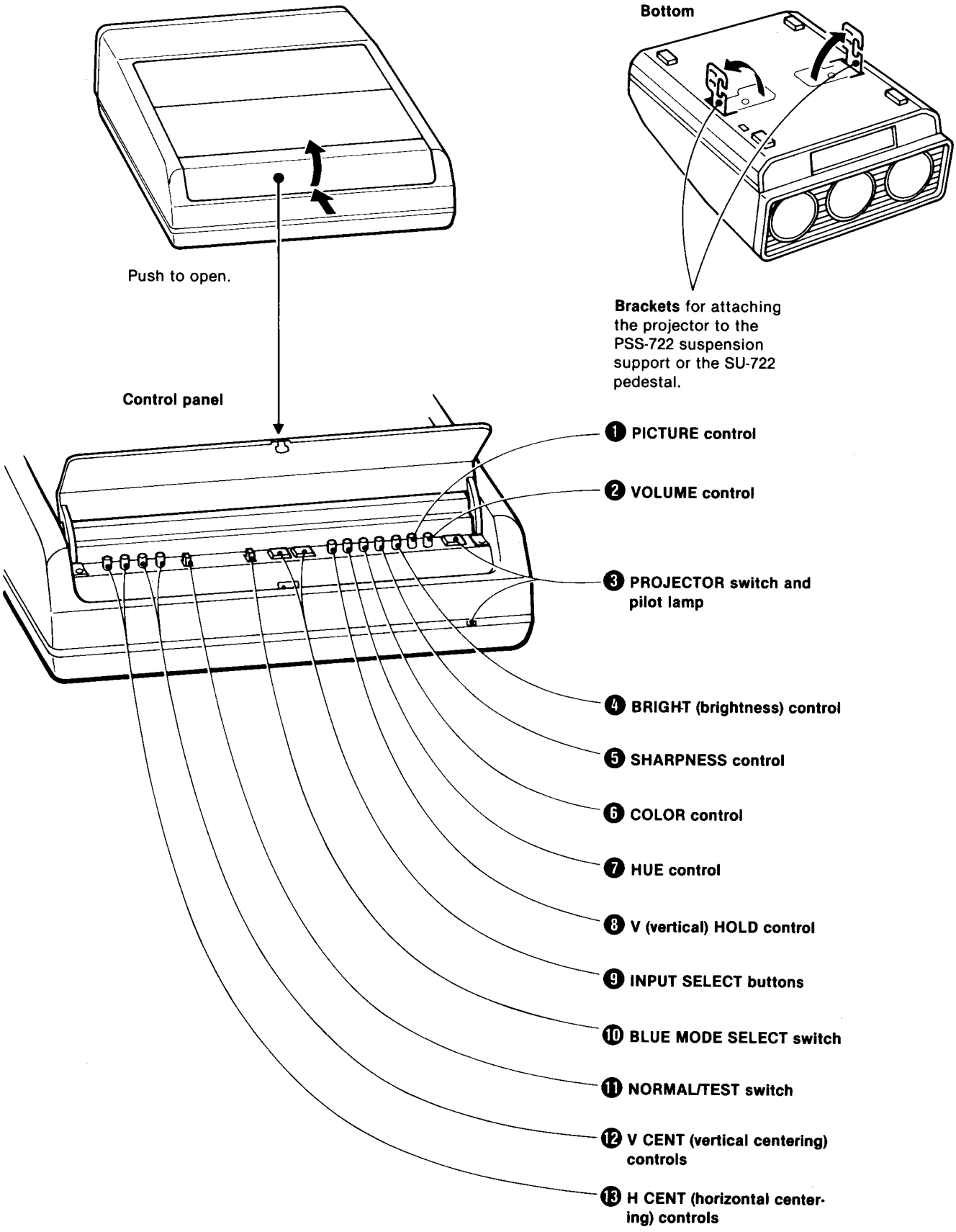
While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications. We would ask you to check with your appointed Sony dealer if clarification on any point is required.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SECTION 1
GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS


Bottom
Push to open.
Brackets for attaching the projector to the PSS-722 suspension support or the SU-722 pedestal.
Control panel
❶ PICTURE control
❷ VOLUME control
❸ PROJECTOR switch and pilot lamp
❹ BRIGHT (brightness) control
❺ SHARPNESS control
❻ COLOR control
❼ HUE control
❽ V (vertical) HOLD control
❾ INPUT SELECT buttons
❿ BLUE MODE SELECT switch
⓫ NORMAL/TEST switch
⓬ V CENT (vertical centering) controls
⓭ H CENT (horizontal centering) controls

❶ PICTURE control
Adjusts the contrast, color intensity and brightness simultaneously in the proper ratio.

❷ VOLUME control
Adjusts the volume.

❸ PROJECTOR switch
Depress to turn the projector on. The green pilot lamp will light. To turn off, press the switch again.

❹ BRIGHT (brightness) control
Adjusts the brightness.

❺ SHARPNESS control
Adjusts the sharpness. Clockwise rotation makes the picture sharp; counterclockwise rotation makes it soft.

❻ COLOR control
Adjusts the color intensity. Clockwise rotation makes the picture vivid; counterclockwise rotation makes it pale.

❼ HUE control
This control is effective only for a program of the NTSC or $NTSC_{4.43}$ color system. Use to obtain the most natural skin tones. Clockwise rotation makes the skin tones greenish; counterclockwise rotation makes them purplish.

❽ V (vertical) HOLD control
If the picture rolls vertically, adjust this control until the picture stabilizes.

❾ INPUT SELECT buttons
Press to select the program source to be projected.
LINE: For inputs from the LINE IN connectors
RGB: For inputs from the RGB IN connectors
If audio signals are connected to the LINE IN, the sound will be heard.

❿ BLUE MODE SELECT switches
This switch is effective only for RGB inputs.
Usually set to NORMAL. Set to BB (blue background) to change the black background of the display to blue, and to CB (clear blue) to lighten blue part of the display.
The display should become easier to view.

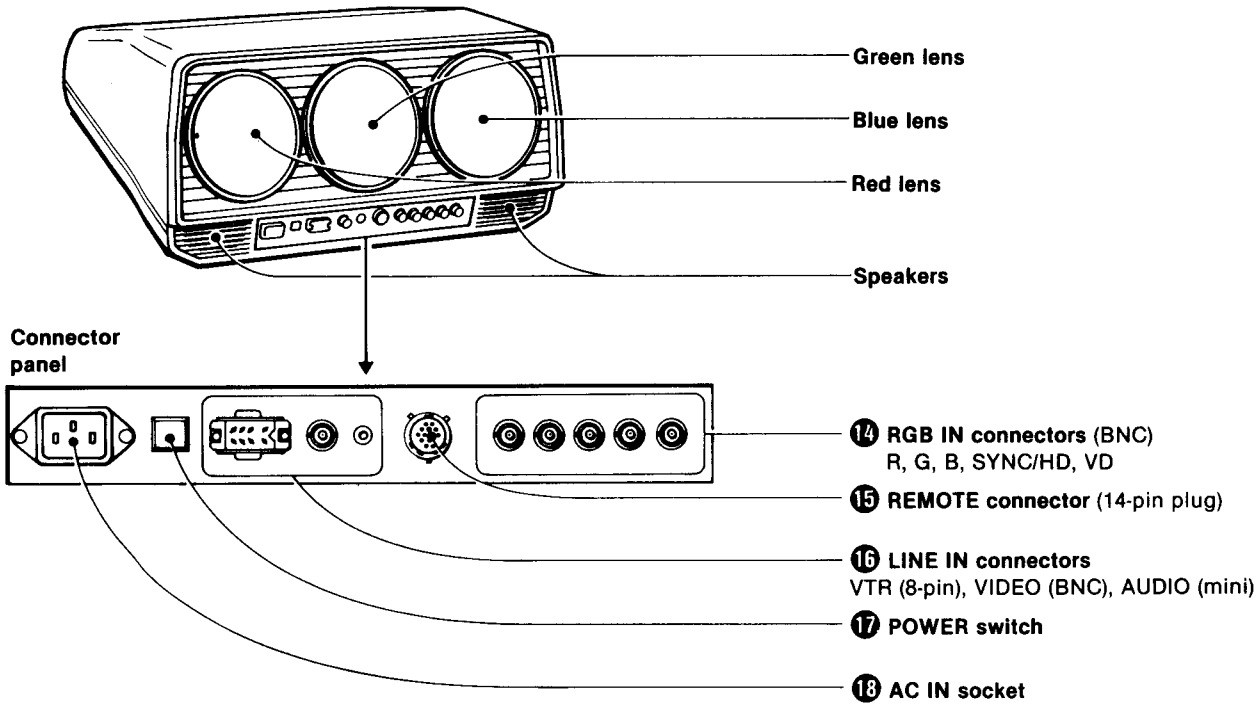
⓫ NORMAL/TEST switch
Usually set to NORMAL to project inputs from the LINE IN or RGB connectors.
Set to TEST to display the built-in cross-hair pattern on the screen for easier adjustments of the projector's position and registration.

⓬ V CENT (vertical centering) controls
Adjust vertical registration of red and blue.

⓭ H CENT (horizontal centering) controls
Adjust horizontal registration of red and blue.

❺ ❻ ❼ controls do not function for RGB inputs.
To project RGB inputs of TTL level in better condition, slightly darken the display by turning the PICTURE and BRIGHT controls counterclockwise.

❶ through ⓫ do not function when the VPR-722 remote controller is connected to the REMOTE connector. The same controls on the VPR-722 are operative.



⑭ RGB IN connectors (BNC)
Allow a character generator, microcomputer, video camera or a special adaptor for future videotext/teletext having digital or analog RGB outputs to be connected.
R, G, B: to RGB outputs
SYNC/HD: to a composite sync or horizontal sync output
VD: to a vertical sync output

⑮ REMOTE connector (14-pin plug)
To remotely control the projector, for instance, when it is installed on the ceiling, connect the optional VPR-722 remote controller here using the optional CCQ connecting cable.

⑯ LINE IN connectors
Allow a video tape recorder, video camera, color receiver/monitor, etc. having video/audio line outputs to be connected.
VTR (8-pin): to an 8-pin TV connector on a VTR
VIDEO (BNC): to a video line output
AUDIO (mini): to an audio line output
Caution: Use either the VTR or VIDEO/AUDIO connectors, but not both simultaneously.
Do not connect a TV tuner or a color receiver/monitor equipped with an 8-pin connector to the VTR connector, because signal assignment is different.

⑰ POWER switch
Depress to turn the power on. When the VPR-722 remote controller is used, power will be supplied to the controller.

⑱ AC IN socket
Connect the supplied ac power (mains) cord here and to an ac (mains) outlet.

WARNING for the customers in the United Kingdom
THIS APPARATUS MUST BE EARTHED to your 3-pin plug in accordance with following instructions.

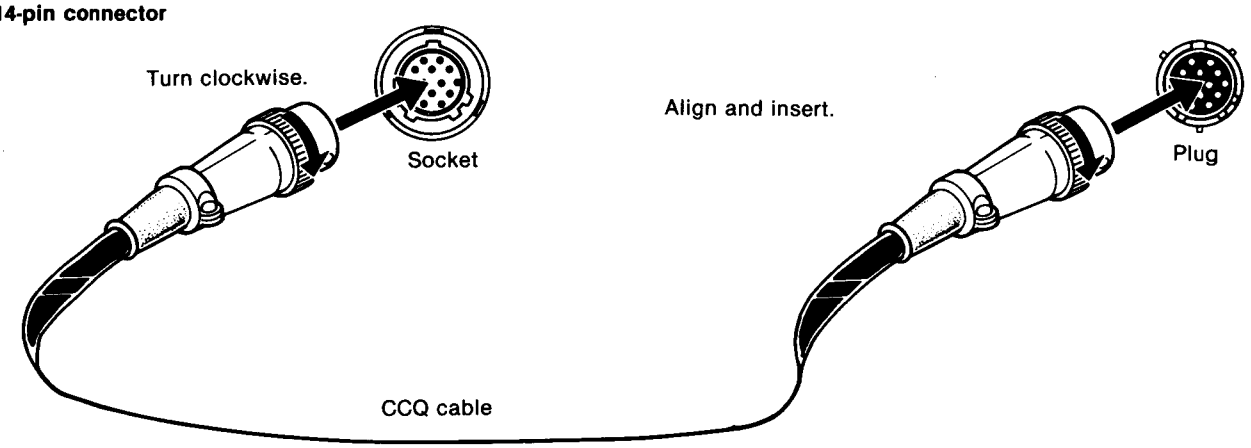
Important
The wires in the mains lead are coloured in accordance with the following code;
Green-and-yellow.....Earth (Safety earth)
Blue.....Neutral
Brown.....Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

1-2. SYSTEM CONNECTIONS

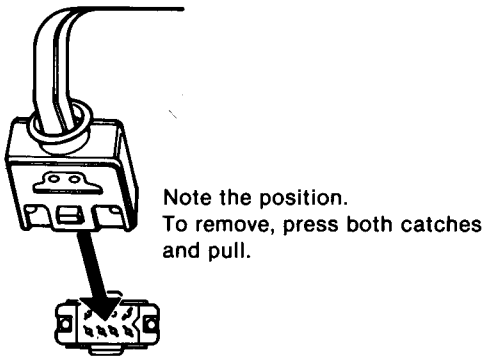
CONNECTING NOTES

- First make sure that the power to each piece of equipment is turned off.
- Use suitable connecting cables according to the equipment to be connected.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

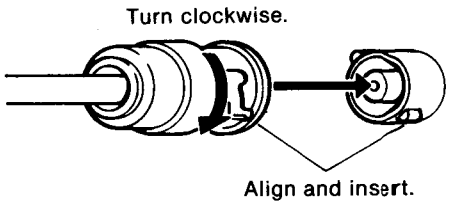
14-pin connector



8-pin connector



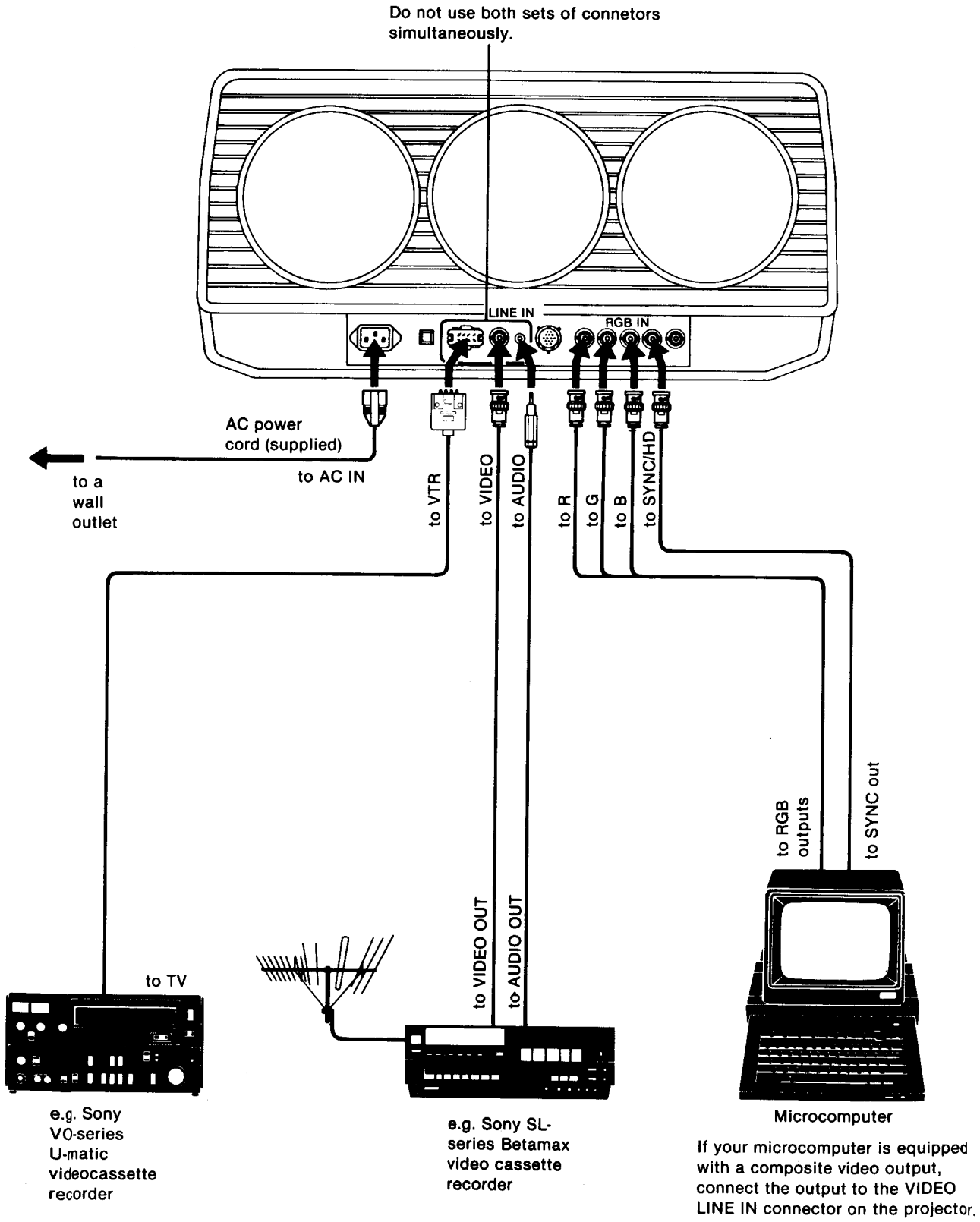
BNC connector



- The cable may be extended to max. 50m. If the connecting cable is too long (longer than 50 m), picture quality may be degraded somewhat.
- To disconnect the cable, pull it out by grasping the plug. Never pull the cable itself.
- Read the instruction manual of the equipment to be connected.

EXAMPLES OF CONNECTIONS

Using the projector without the VPR-722 remote controller



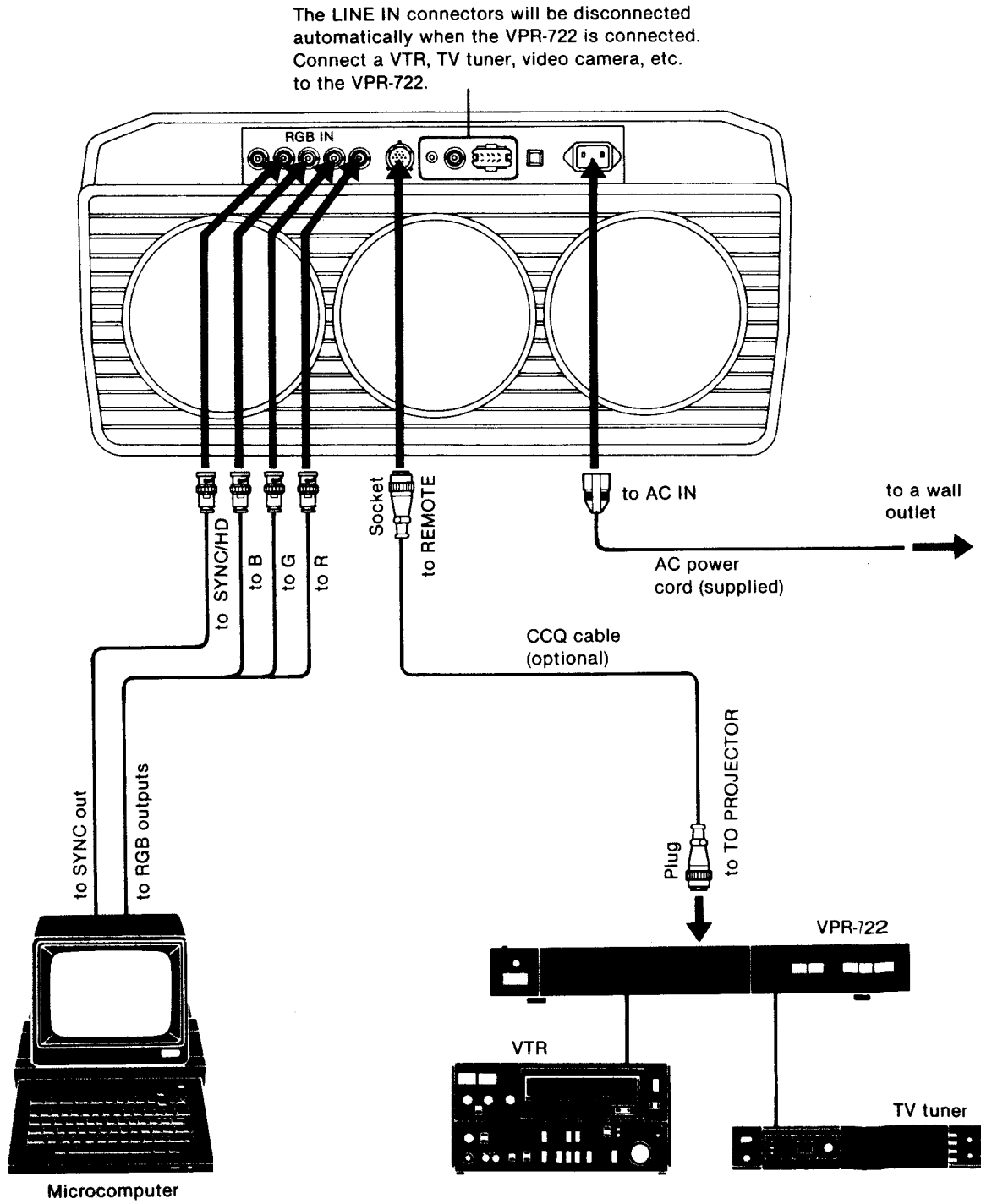
e.g. Sony V0-series U-matic videocassette recorder

e.g. Sony SL-series Betamax video cassette recorder

Microcomputer

If your microcomputer is equipped with a composite video output, connect the output to the VIDEO LINE IN connector on the projector.

Using the projector with the VPR-722 remote controller
Use the optional VPR-722 remote controller when the projector is installed on the ceiling or at a distance from your seat. Power on/off, program selection and picture adjustments can be remotely controlled.



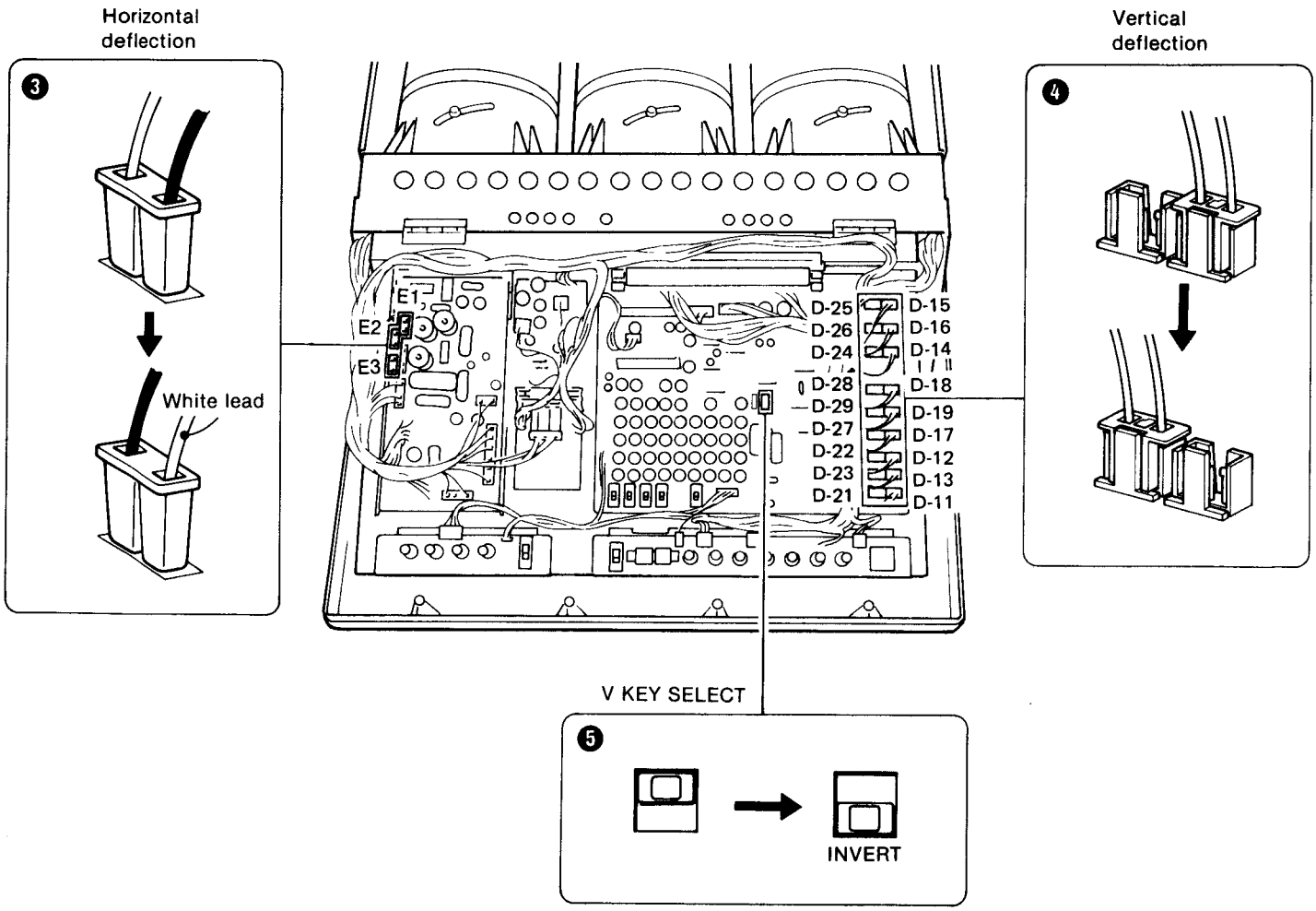
If your microcomputer is equipped with a composite video output, connect the output to the VIDEO LINE IN connector on the controller.

For details on the connections, see the instruction manual of the VPR-722.

POLARITY CHANGE

The projector is preadjusted at the factory to be used on the desk with the bracket side down.
When the projector is installed on the ceiling with the bracket side up, the polarity should be changed.

❶ Make sure that the power is not connected.
❷ Open the cabinet.
❸ Reverse the polarity of connectors E1, E2 and E3.
❹ Move the connectors from the right D-11 through D-19 receptacles to the left D-21 through D-29 receptacles.
❺ Set the V KEY SELECT switch to INVERT.

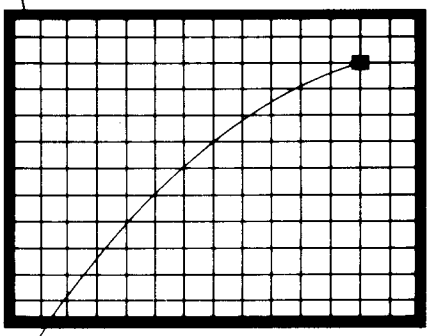


Check that the connectors are inserted firmly, then proceed with the lens focus adjustment with the projector's cabinet open.

LENS FOCUS ADJUSTMENT

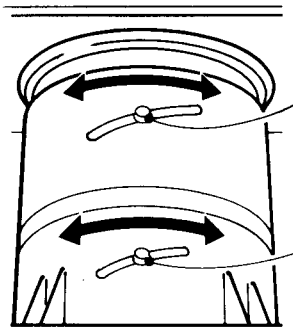
❶ Open the cabinet.
❷ Install the projector to the proper position on the floor or the ceiling.
❸ Connect the power cord supplied to the AC IN socket and to an ac outlet, turn on the POWER switch on the connector panel, then turn the PROJECTOR switch on.
The green lamp will light up.
❹ Set the NORMAL/TEST switch to TEST and the TEST switch to HATCH.
A cross hatch pattern will be displayed.
❺ Check the following.

Does the screen fit inside the white frame? → If not, adjust the position of the projector.



Does a white marker appear here? → If not, the polarity change has not been properly made. Check the steps on page 10.

❻ Set the G (green) and R (red) CUT OFF switches to ON, then adjust the focus of the blue lens.

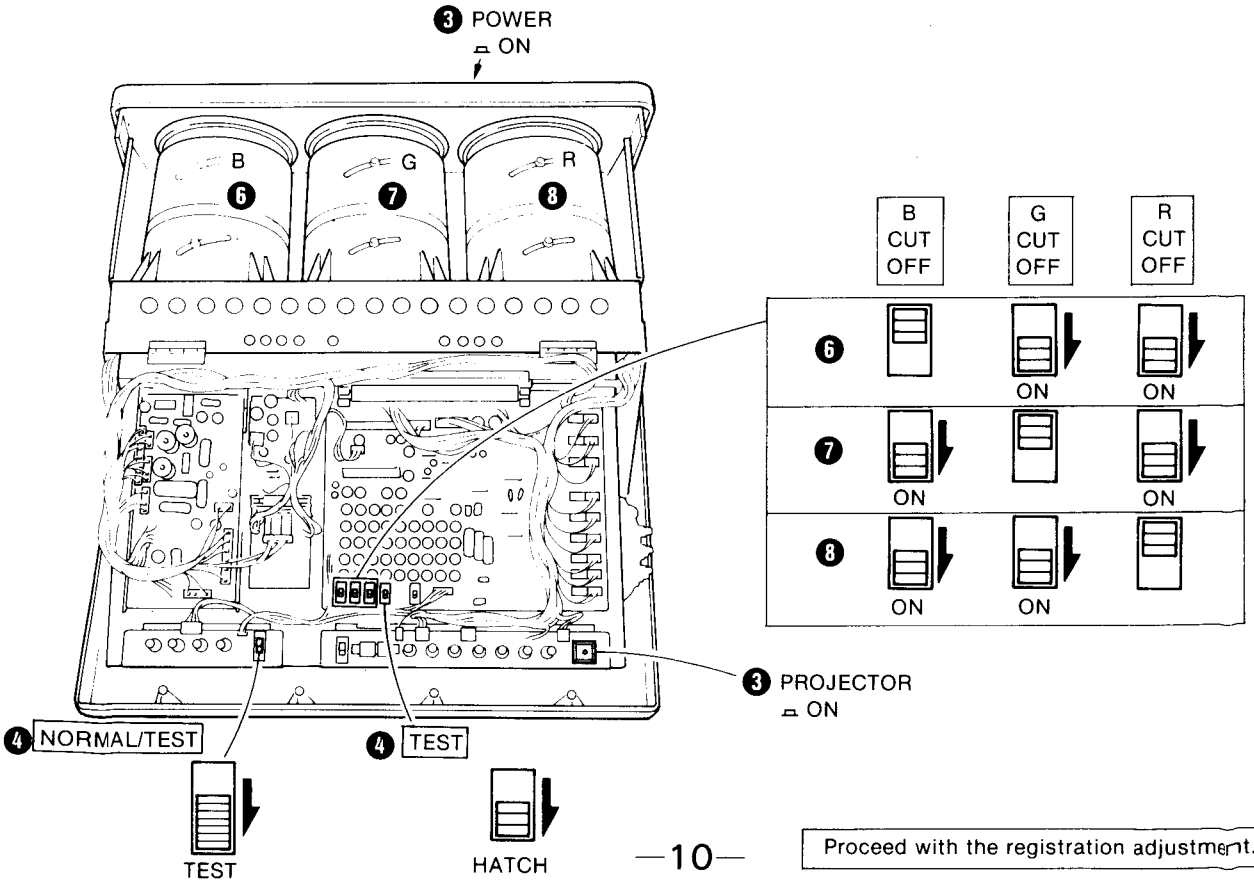


2) Loosen the screw, adjust the focus on the corners, then tighten the screw.

1) Loosen the screw, adjust the focus on the corners, then tighten the screw.

❼ Set only the G CUT OFF switch to OFF and the other switches to ON, then adjust the focus of the green lens.
❽ Set only the R CUT OFF switch to OFF and the other switches to ON, then adjust the focus of the red lens.
❾ Close the cabinet. (Reverse the steps indicated on page 8.)

Caution
Take care not to touch portions of the projector other than these indicated below because dangerous high voltages are present. To change the polarity, first turn the POWER switch off.

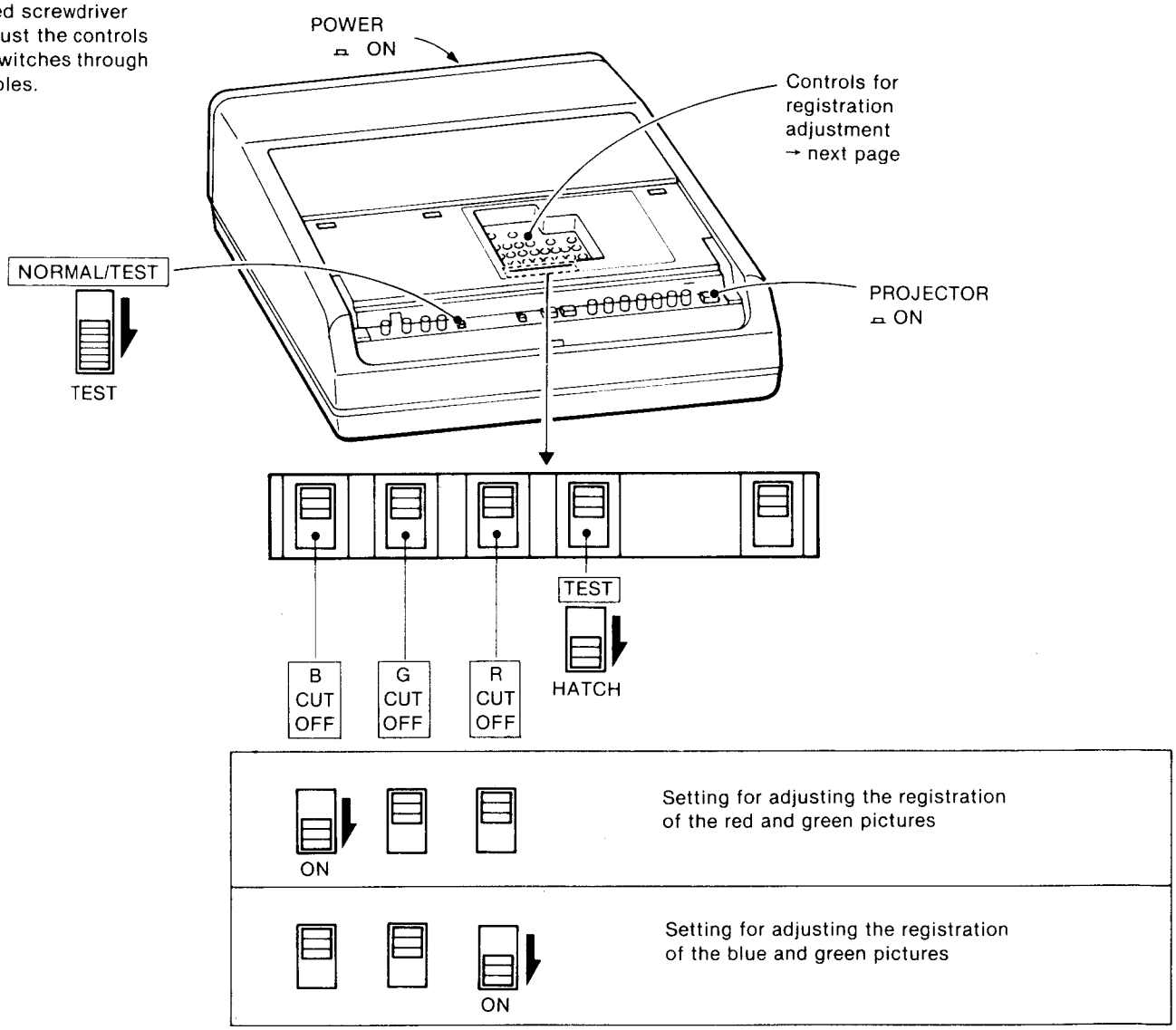


Proceed with the registration adjustment.

REGISTRATION ADJUSTMENT

Location of controls

Use a small, flat-headed screwdriver to adjust the controls and switches through the holes.



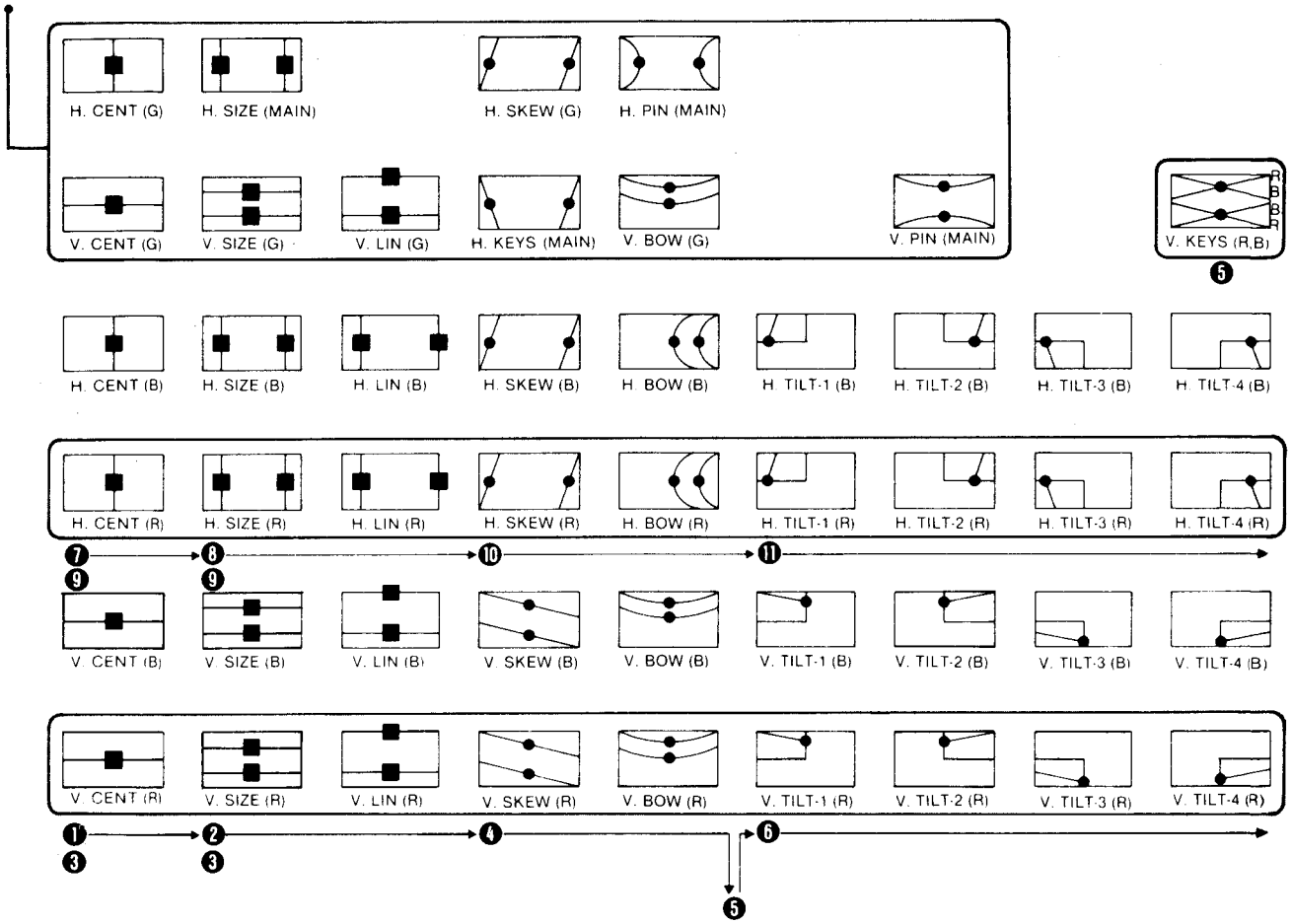
Vertical registration of the red and green pictures

❶ Adjust the V. CENT (R) control so that the red horizontal lines and the green horizontal lines converge in the middle of the screen.
❷ Adjust the V. SIZE (R) and V. LIN (R) controls so that the red horizontal lines and the green horizontal lines converge at the upper and lower sides of the screen.
❸ Repeat steps ❶ and ❷ as necessary.
❹ Adjust the V. SKEW (R) and V. BOW (R) controls so that the red horizontal lines and the green horizontal lines converge in the middle of the screen.
❺ Adjust the V. KEYS (R, B) control so that the red horizontal lines at the top and bottom of the screen are parallel.
❻ Adjust the V. TILT-1 (R) to -4 (R) controls so that the red horizontal lines and the green horizontal lines converge in the corners of the screen.

Horizontal registration of the red and green pictures

❼ Adjust the H. CENT (R) control so that the red vertical lines and the green vertical lines converge in the middle of the screen.
❽ Adjust the H. SIZE (R) and H. LIN (R) controls so that the red vertical lines and the green vertical lines converge at the right and left sides of the screen.
❾ Repeat steps ❼ and ❽ as necessary.
❿ Adjust the H. SKEW (R) and H. BOW (R) controls so that the red vertical lines and the green vertical lines converge in the middle of the screen.
⓫ Adjust the H. TILT-1 (R) to -4 (R) controls so that the red vertical lines and the green vertical lines converge at the corners of the screen.

These controls are used if the basic green picture must be adjusted. The H. SIZE (MAIN), H. KEYS (MAIN), H. PIN (MAIN) and V. PIN (MAIN) controls adjust the green, red and blue pictures simultaneously.



The numbered controls are used to adjust the registration of the red and green pictures.
The numbers refer to the sequence of adjustment.

Proceed with the following adjustments in the same manner as with red and green registration except for the setting of the CUT OFF switches.

Vertical registration of the blue and green pictures

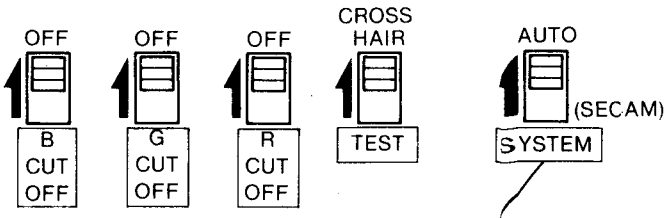
❶ V. CENT (B) control
❷ V. SIZE (B) and V. LIN (B) controls
❸ Repeat steps ❶ and ❷.
❹ V. SKEW (B) and V. BOW (B) controls
❺ V. KEYS (R, B) control, if required
❻ V. TILT-1 (B) to -4 (B) controls

Horizontal registration of the blue and green pictures

❼ H. CENT (B) control
❽ H. SIZE (B) and H. LIN (B) controls
❾ Repeat steps ❼ and ❽.
❿ H. SKEW (B) and H. BOW (B) controls
⓫ H. TILT-1 (B) to -4 (B) controls

When registration is complete

❶ Set the switches to the following positions.



Set the SYSTEM switch to SECAM only when you connect a SECAM color source whose signal condition is poor.

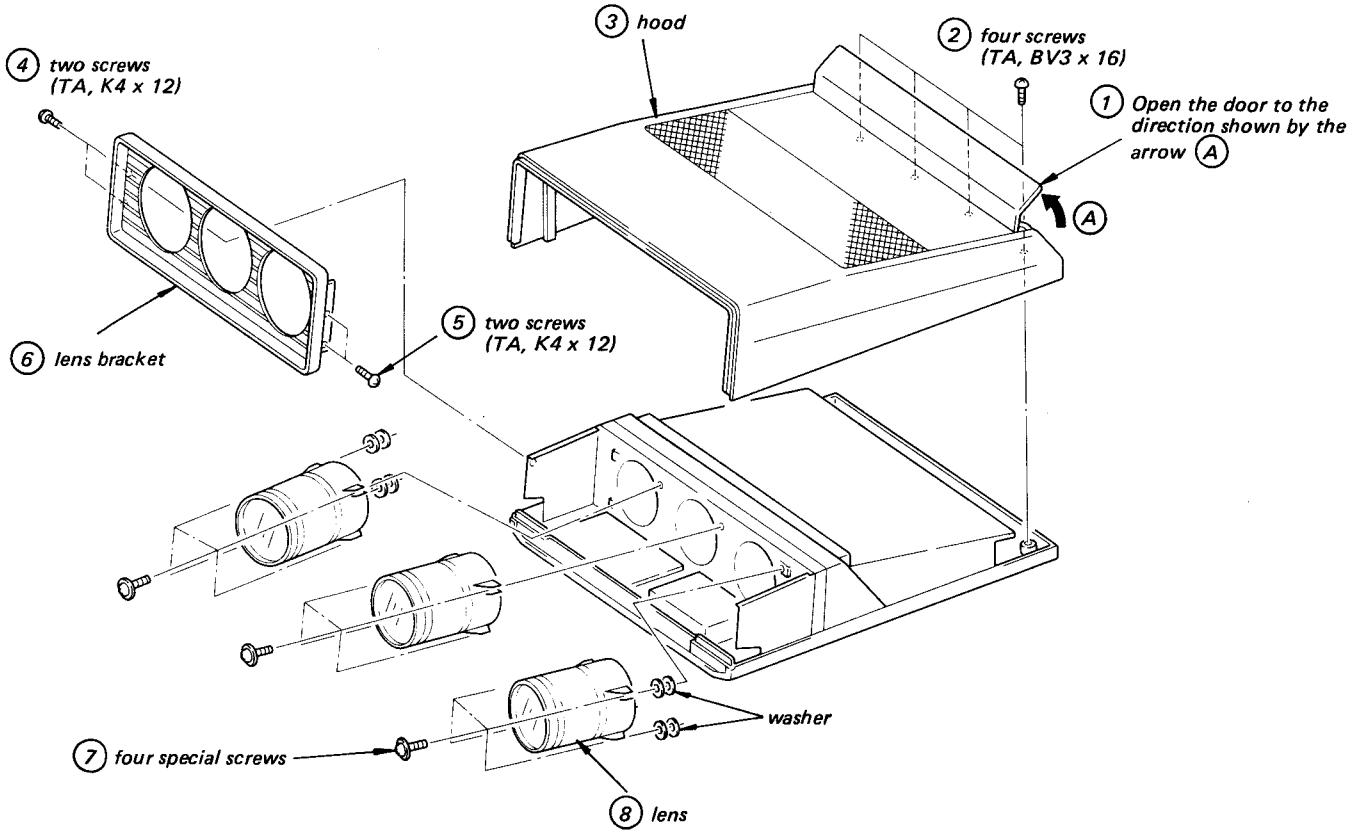
❷ Replace the cover and tighten the two screws.

SECTION 2
DISASSEMBLY (AND REPLACEMENT)

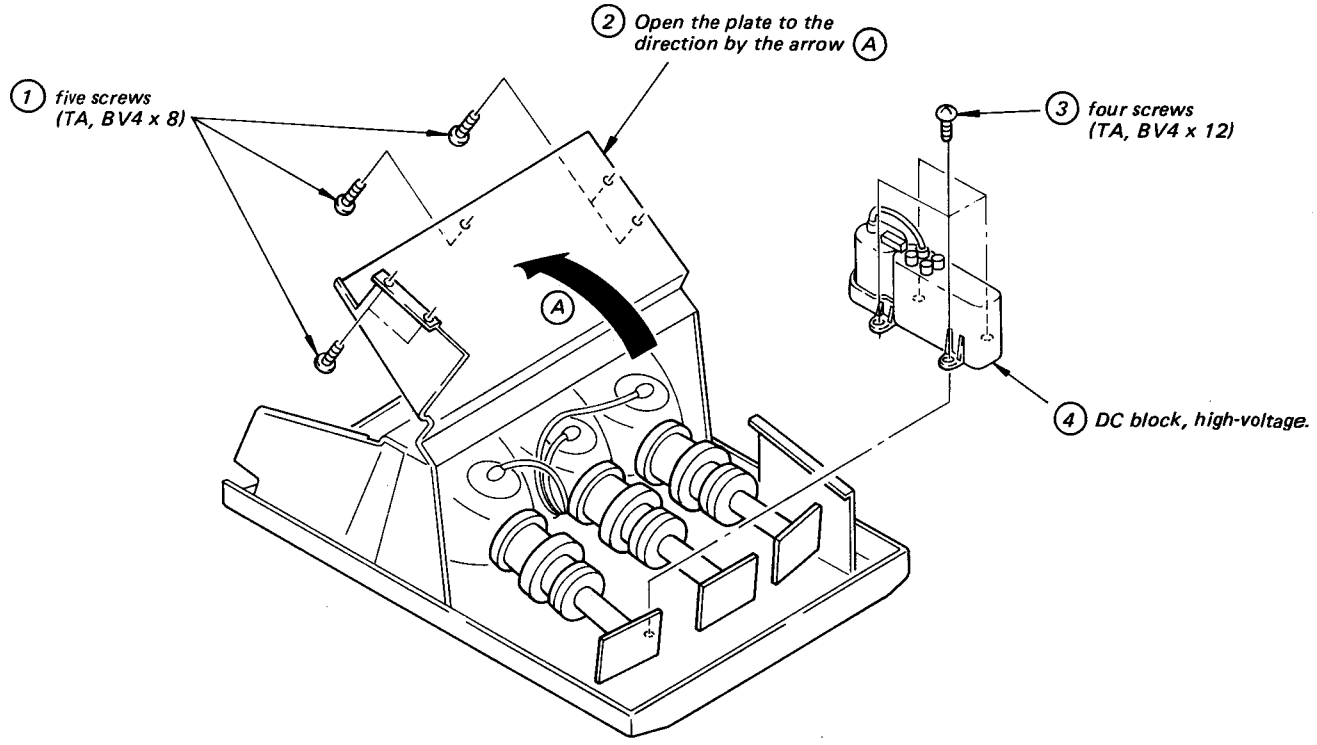
2-1. LENS REMOVAL

Note: Follow the disassembly procedure in the numerical order given.

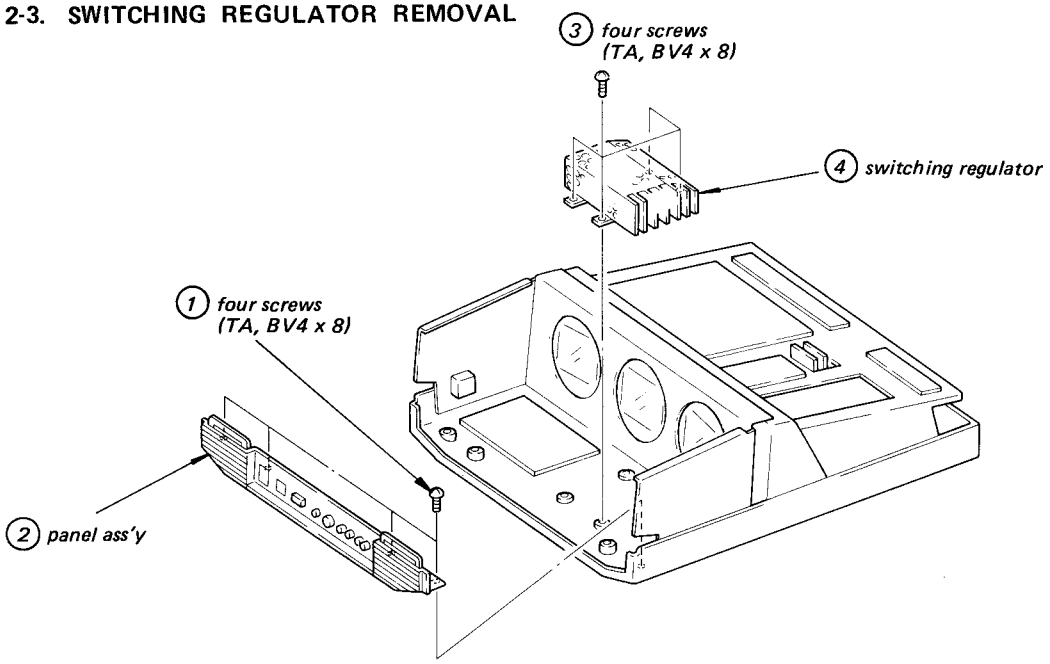
Note: Other two lenses are removed by the same way.


3 hood
2 four screws (TA, BV3 x 16)
1 Open the door to the direction shown by the arrow A
4 two screws (TA, K4 x 12)
A
5 two screws (TA, K4 x 12)
6 lens bracket
washer
7 four special screws
8 lens

2-2. DC BLOCK, HIGH-VOLTAGE REMOVAL

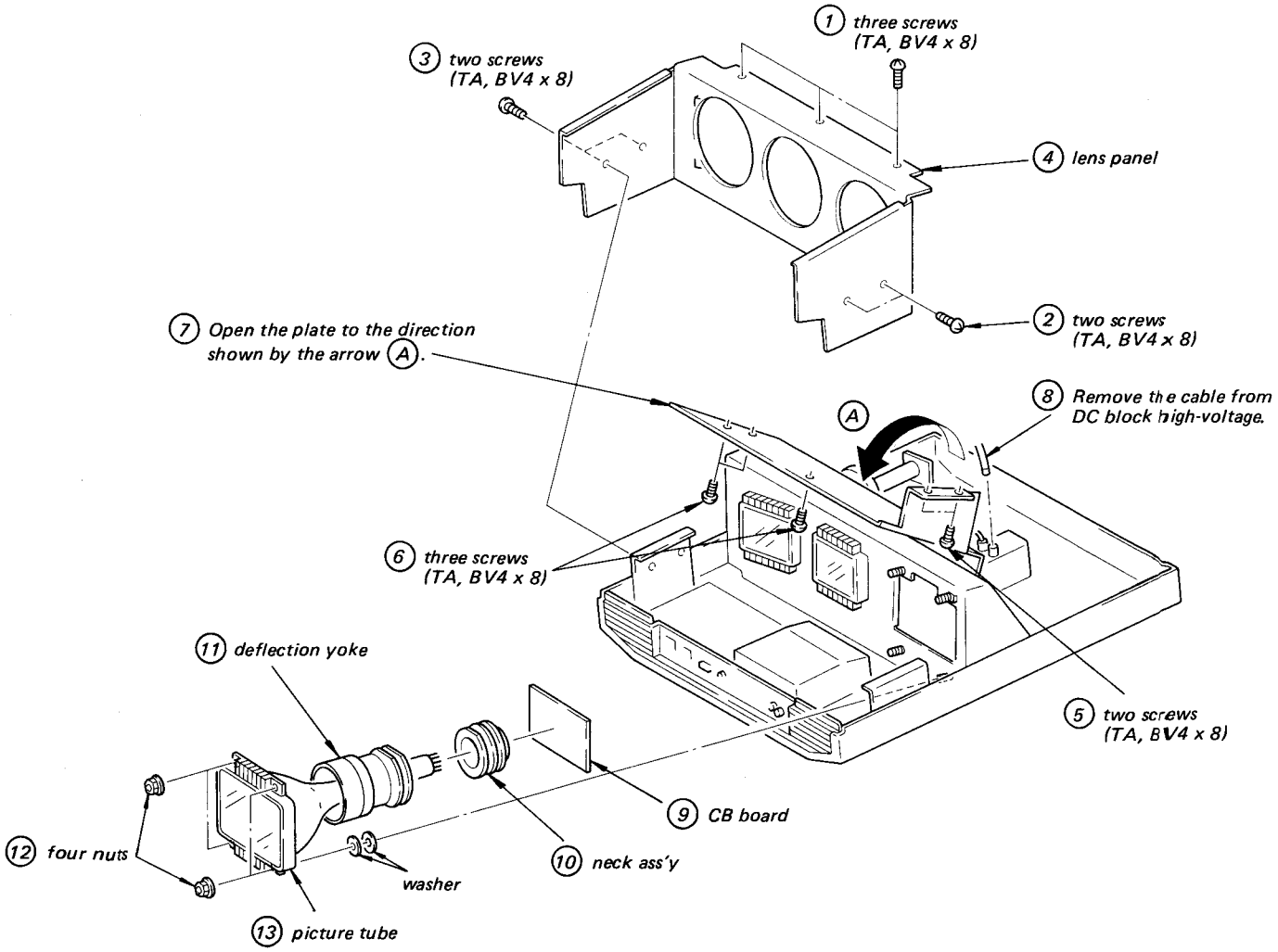


2-3. SWITCHING REGULATOR REMOVAL



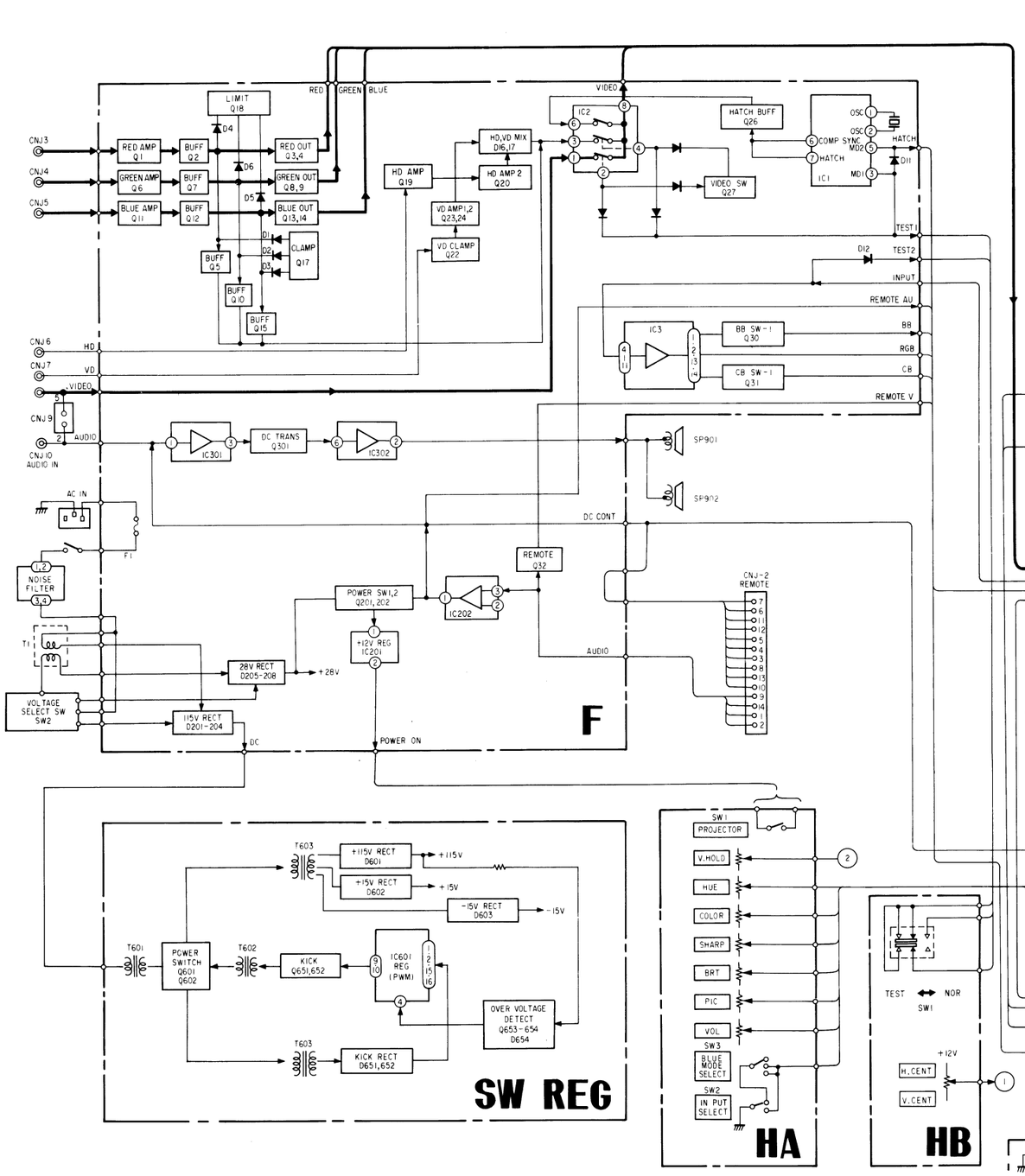
2-4. PICTURE TUBE REMOVAL

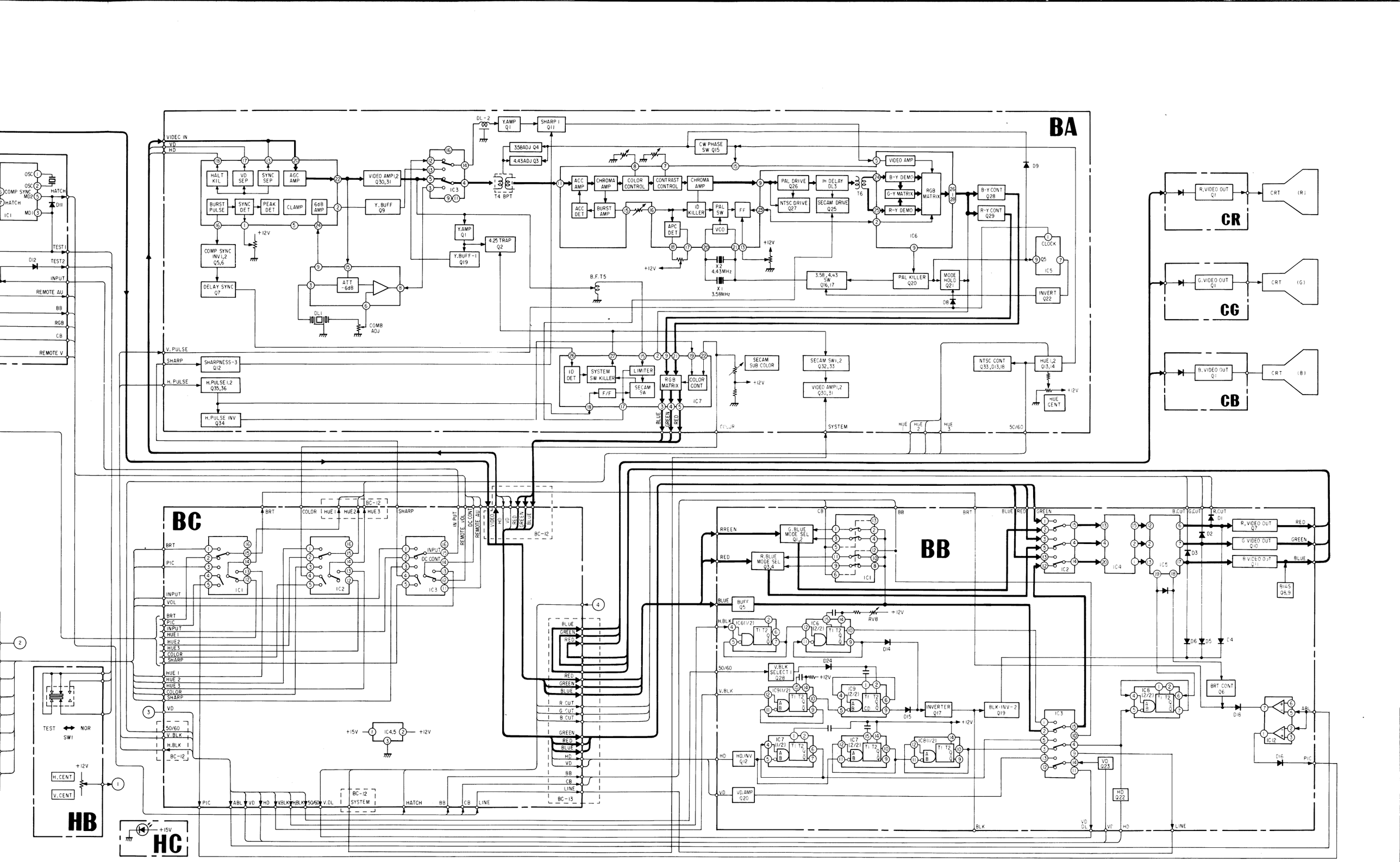
Note: Other two picture tubes are removed by the same way.


(1) three screws (TA, BV4 x 8)
(3) two screws (TA, BV4 x 8)
(4) lens panel
(2) two screws (TA, BV4 x 8)
(7) Open the plate to the direction shown by the arrow (A).
(8) Remove the cable from DC block high-voltage.
A
(6) three screws (TA, BV4 x 8)
(11) deflection yoke
(5) two screws (TA, BV4 x 8)
(9) CB board
(12) four nuts
(10) neck ass'y
washer
(13) picture tube

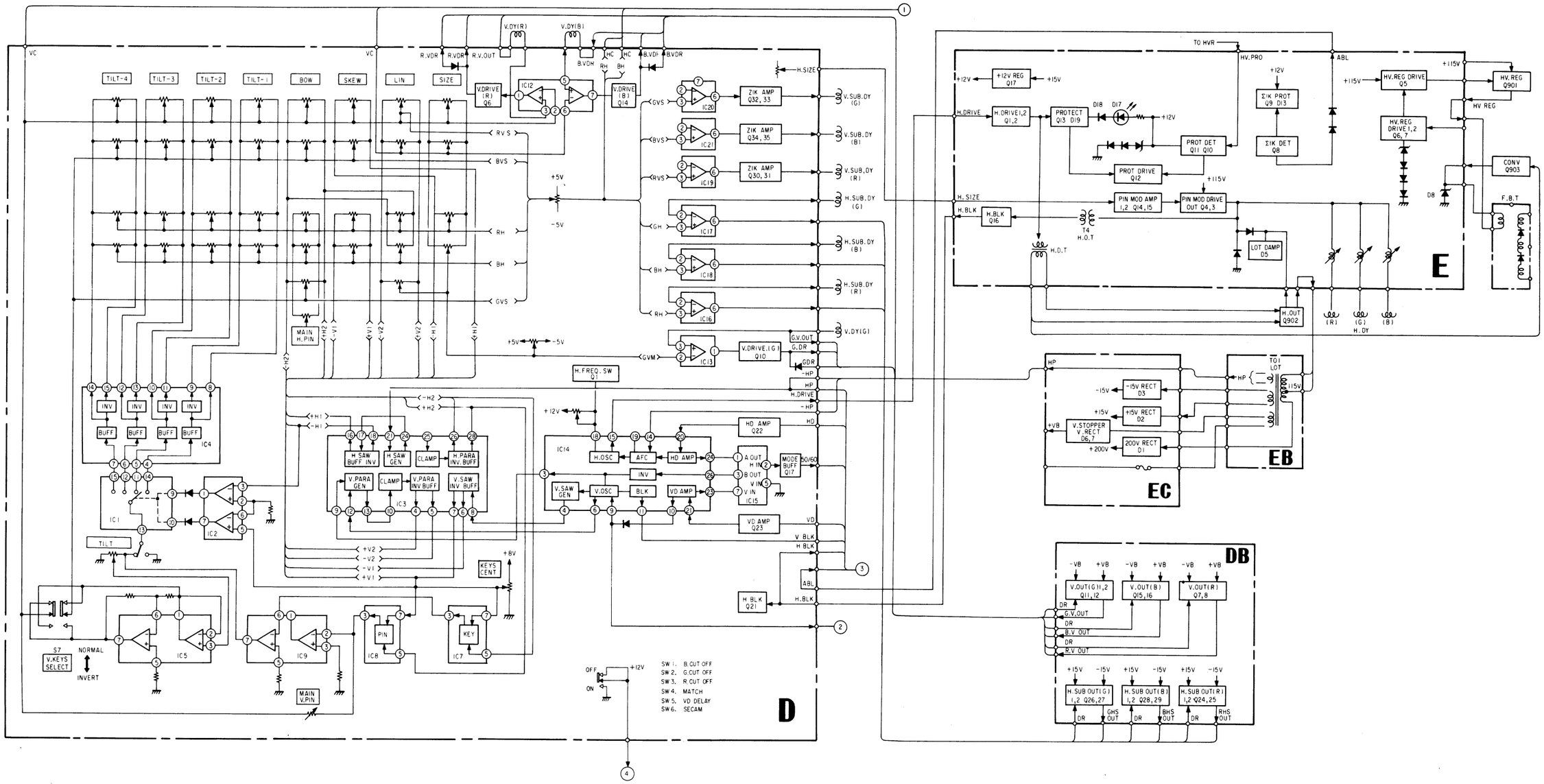
SECTION 3
DIAGRAMS AND CIRCUIT BOARDS LOCATION

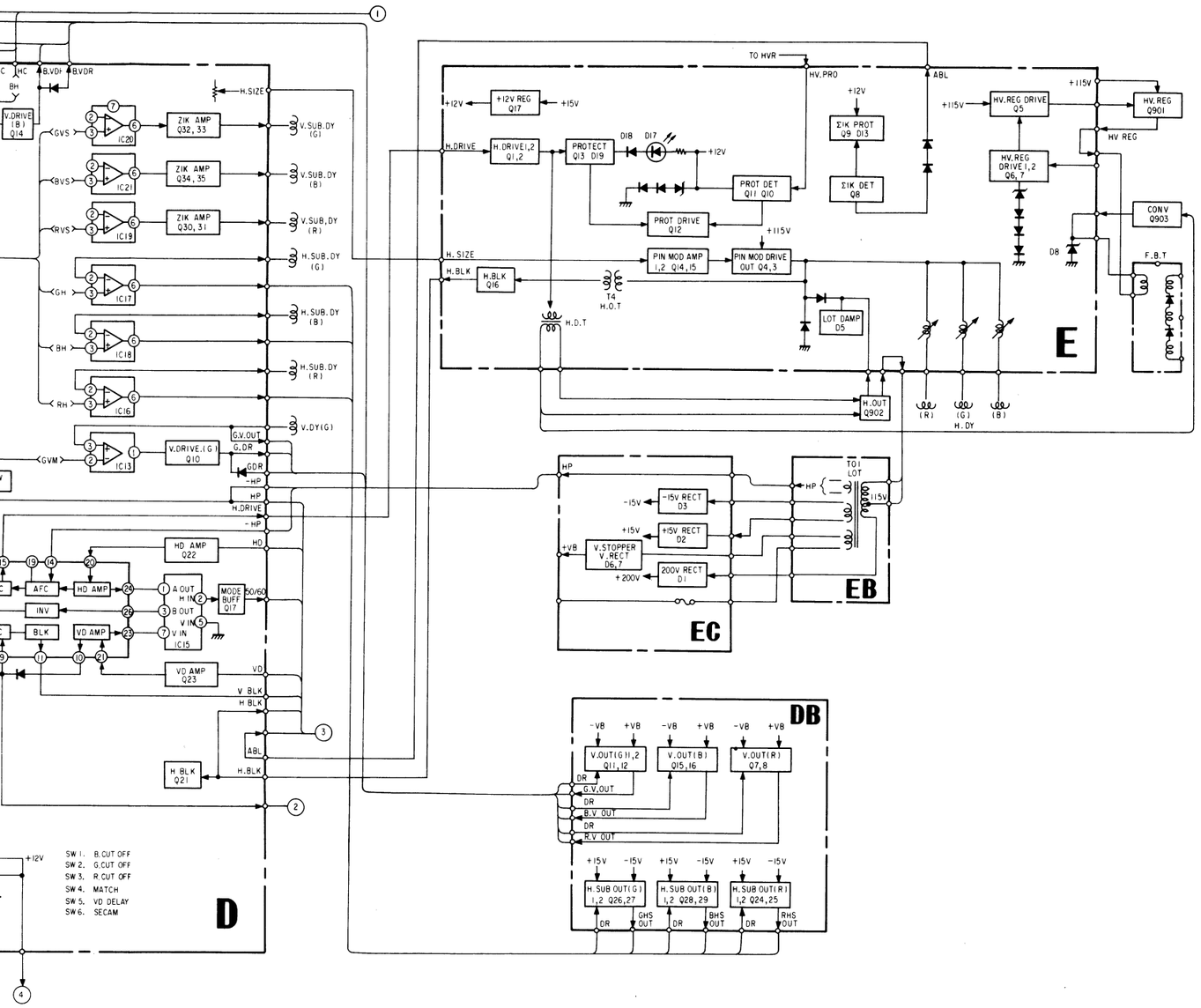
3-1. BLOCK DIAGRAM (1/2)



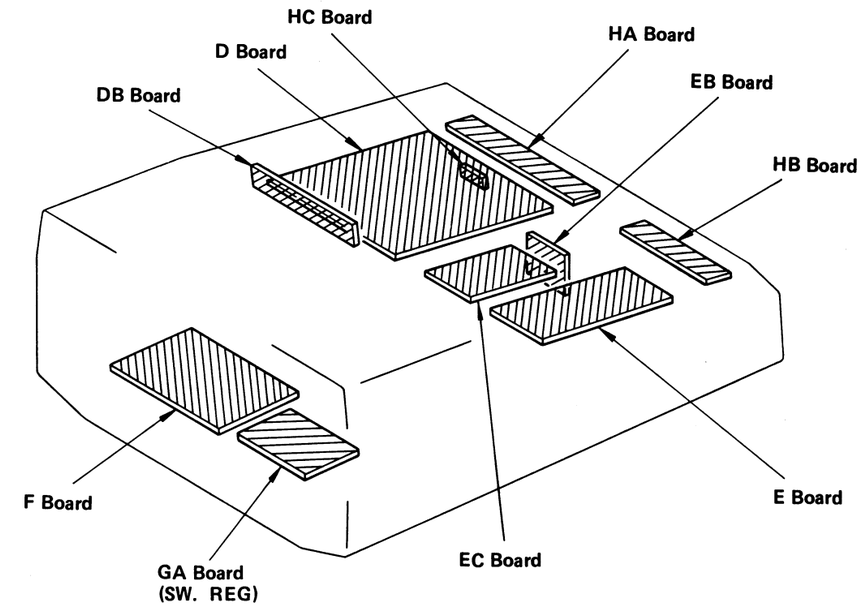

BA
VIDEO IN
V.PULSE
SHARP
H.PULSE
HALT KIL
V.D SEP
SYNC SEP
AGC AMP
BURST PULSE
SYNC DET
PEAK DET
CLAMP
68Ω AMP
COMP SYNC INV1,2 Q5,6
DELAY SYNC Q7
VIDEO AMP1,2 Q30,31
Y.BUFF Q9
ATT -6dB
COMB ADJ
DL-1
DL-2
Y.AMP Q1
SHARP 1 Q11
3.58ADJ Q4
4.43ADJ Q3
IC3
T4 BPT
4.25TRAP Q2
Y.BUFF-1 Q19
CW PHASE SW Q15
ACC AMP
CHROMA AMP
COLOR CONTROL
CONTRAST CONTROL
ACC DET
BURST AMP
APC DET
ID KILLER
PAL SW
VCO
F/F
X2 4.43MHz
X1 3.58MHz
B.F.T5
PAL DRIVE Q26
NTSC DRIVE Q27
SECAM DRIVE Q25
1H DELAY DL3
T6
VIDEO AMP
B-Y DEMO
G-Y MATRIX
R-Y DEMO
RGB MATRIX
B-Y CONT Q28
R-Y CONT Q29
IC6
D9
CLOCK
IC5
INVERT Q22
3.58_4.43 SW Q16,17
PAL KILLER Q20
MODE HOLD Q21
D8
ID DET
SYSTEM SW KILLER
LIMITER
SECAM SW
RGB MATRIX
COLOR CONT
IC7
SECAM SUB COLOR
SECAM SW1,2 Q32,33
VIDEO AMP1,2 Q30,31
NTSC CONT Q33,D13,I8
HUE1,2 Q13,14
HUE CENT
BLUE
GREEN
RED
COLOR
SYSTEM
HUE 1
HUE 2
HUE 3
50/60
R.VIDEO OUT Q1
G.VIDEO OUT Q1
B.VIDEO OUT Q1
CRT (R)
CRT (G)
CRT (B)
CR
CG
CB

BC
BB
HB
HC
BRT
PIC
INPUT
VOL
HUE1
HUE2
HUE3
COLOR
SHARP
IC1
IC2
IC3
BC-12
BC-13
R.CUT
G.CUT
B.CUT
RED
GREEN
BLUE
HD
VD
BB
CB
LINE
TEST ↔ NOR
SW1
H.CENT
V.CENT
+12V
+15V
IC4,5
R.BLUE MODE SEL Q3,4
G.BLUE MODE SEL Q1,2
BUFF Q5
V.BLK SELECT1 Q28
HD.INV Q12
VD.AMP Q20
INVERTER Q17
BLK-INV-2 Q19
VD Q23
HD Q22
BRT CONT Q6
R.VIDEO OUT Q7
G.VIDEO OUT Q10
B.VIDEO OUT Q11
BIAS Q8,9
RV8
D1
D2
D3
D4
D5
D6
D14
D15
D16
D18
D24
IC1
IC2
IC3
IC4
IC5
IC6(1/2)
IC6(2/2)
IC7(1/2)
IC7(2/2)
IC8(1/2)
IC8(2/2)
IC9(1/2)
IC9(2/2)
IC12
BLK
VD DL
VD
HD
LINE

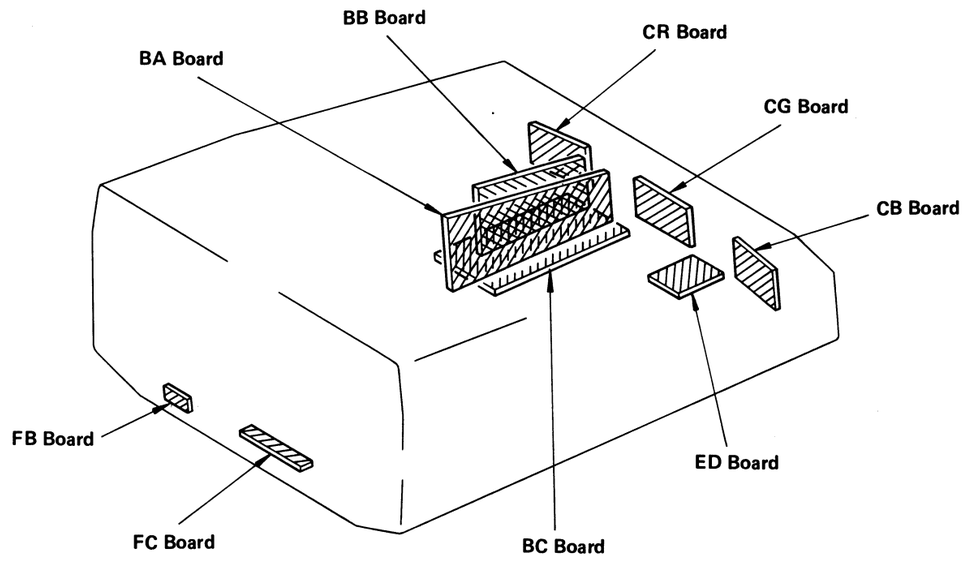

TILT-4
TILT-3
TILT-2
TILT-1
BOW
SKEW
LIN
SIZE
VC
R.VDR
R.V.OUT
V.DY(R)
V.DY(B)
B.VDR
B.VDH
RH
BH
HC
V.DRIVE (R) Q6
V.DRIVE (B) Q14
IC12
H.SIZE
IC20
IC21
IC19
IC17
IC18
IC16
IC13
ZIK AMP Q32, 33
ZIK AMP Q34, 35
ZIK AMP Q30, 31
V.SUB.DY (G)
V.SUB.DY (B)
V.SUB.DY (R)
H.SUB.DY (G)
H.SUB.DY (B)
H.SUB.DY (R)
V.DY(G)
RVS
BVS
GVS
GH
BH
RH
GVM
+5V
-5V
V.DRIVE(G) Q10
G.V.OUT
G.DR
GDR
-HP
HP
H.DRIVE
HO
VD
V.BLK
H.BLK
ABL
H.BLK Q21
H.FREQ.SW D1
MAIN H.PIN
MAIN V.PIN
+H2
-H2
+H1
-H1
+V2
-V2
+V1
-V1
INV
BUFF
IC4
IC1
IC2
IC3
IC5
IC9
IC8
IC7
TILT
KEYS CENT
+8V
S7 V.KEYS SELECT
NORMAL
INVERT
PIN
KEY
H.SAW BUFF INV
H.SAW GEN
CLAMP
H.PARA INV.BUFF
V.PARA GEN
V.PARA INV.BUFF
V.SAW INV.BUFF
V.SAW GEN
H.OSC
AFC
HD AMP
HD AMP Q22
VD AMP
VD AMP Q23
BLK
V.OSC
A.OUT
B.OUT
H IN
V IN
IC14
IC15
MODE BUFF Q17
50/60
OFF
ON
SW 1. B.CUT OFF
SW 2. G.CUT OFF
SW 3. R.CUT OFF
SW 4. MATCH
SW 5. VD DELAY
SW 6. SECAM
D
TO HVR
HV.PRO
ABL
+12V
+12V REG Q17
+15V
H.DRIVE
H.DRIVE1,2 Q1,2
PROTECT Q13 D19
D18
D17
PROT DET Q11 Q10
PROT DRIVE Q12
ΣIK PROT Q9 D13
ΣIK DET Q8
+115V
HV.REG DRIVE Q5
HV.REG Q901
HV REG
HV.REG DRIVE 1,2 Q6, 7
CONV Q903
D8
F.B.T
H.SIZE
H.BLK
H.BLK Q16
T4 H.O.T
H.O.T
PIN MOD AMP 1,2 Q14,15
PIN MOD DRIVE OUT Q4,3
LOT DAMP D5
H.OUT Q902
(R)
(G)
(B)
H.DY
E
HP
TO I LOT
-15V RECT D3
+15V RECT D2
V.STOPPER V.RECT D6,7
200V RECT D1
+VB
+200V
EB
EC
DB
-VB
+VB
V.OUT(G) 1,2 Q11,12
V.OUT(B) Q15,16
V.OUT(R) Q7,8
DR
G.V.OUT
B.V.OUT
R.V.OUT
H.SUB OUT(G) 1,2 Q26,27
H.SUB OUT(B) 1,2 Q28,29
H.SUB OUT(R) 1,2 Q24,25
GHS OUT
BHS OUT
RHS OUT



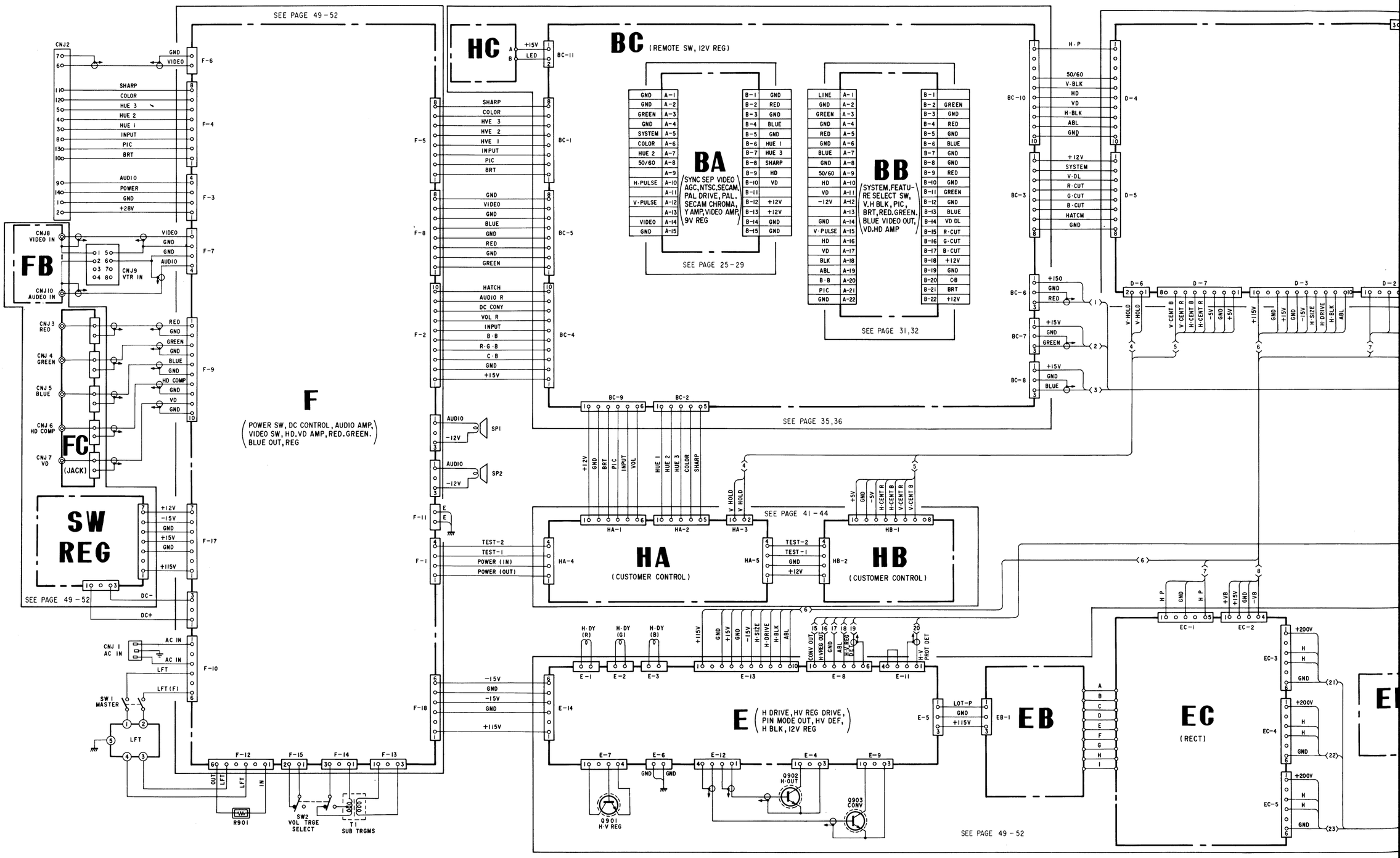
3-2. CIRCUIT BOARDS LOCATION (1/2)

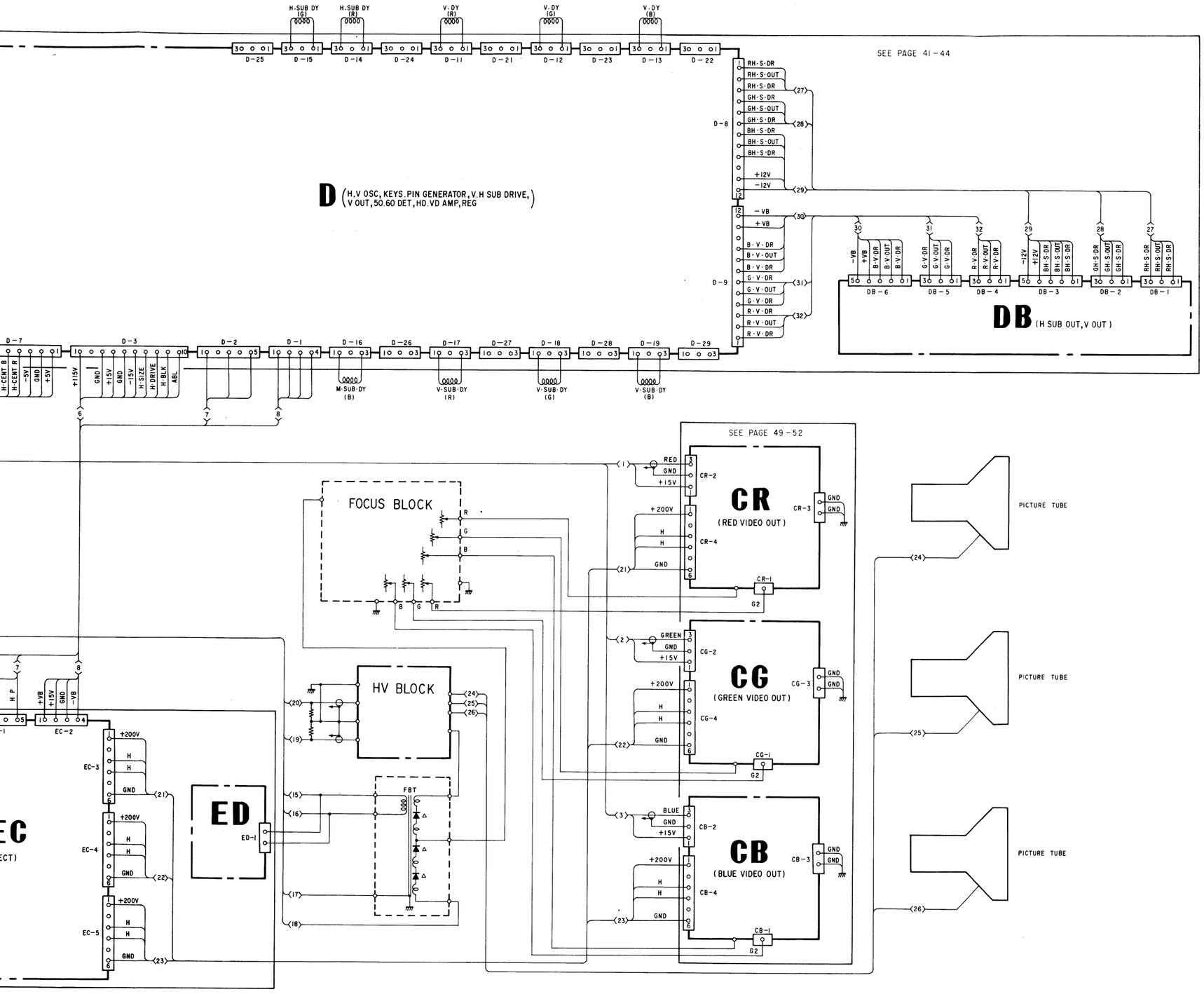


• CIRCUIT BOARDS LOCATION (2/2)



3-3. FRAME SCHEMATIC DIAGRAM




H.SUB DY (G)
H.SUB DY (R)
V.DY (R)
V.DY (G)
V.DY (B)
D-25
D-15
D-14
D-24
D-11
D-21
D-12
D-23
D-13
D-22
SEE PAGE 41-44
D-8
D-9
RH·S·DR
RH·S·OUT
GH·S·DR
GH·S·OUT
BH·S·DR
BH·S·OUT
+12V
-12V
-VB
+VB
B·V·DR
B·V·OUT
G·V·DR
G·V·OUT
R·V·DR
R·V·OUT
D (H.V OSC, KEYS. PIN GENERATOR, V.H SUB DRIVE, V OUT, 50.60 DET, HD.VD AMP, REG)
DB (H SUB OUT, V OUT)
DB-6
DB-5
DB-4
DB-3
DB-2
DB-1
D-7
D-3
D-2
D-1
D-16
D-26
D-17
D-27
D-18
D-28
D-19
D-29
H·CENT B
H·CENT R
-5V
GND
+5V
+115V
+15V
-15V
H SIZE
H·DRIVE
H·BLK
ABL
M-SUB·DY (B)
V-SUB·DY (R)
V-SUB·DY (G)
V-SUB·DY (B)
SEE PAGE 49-52
FOCUS BLOCK
HV BLOCK
FBT
ED
ED-1
EC-1
EC-2
EC-3
EC-4
EC-5
+200V
H
GND
CR
(RED VIDEO OUT)
CG
(GREEN VIDEO OUT)
CB
(BLUE VIDEO OUT)
RED
GREEN
BLUE
CR-1
CR-2
CR-3
CR-4
CG-1
CG-2
CG-3
CG-4
CB-1
CB-2
CB-3
CB-4
G2
PICTURE TUBE

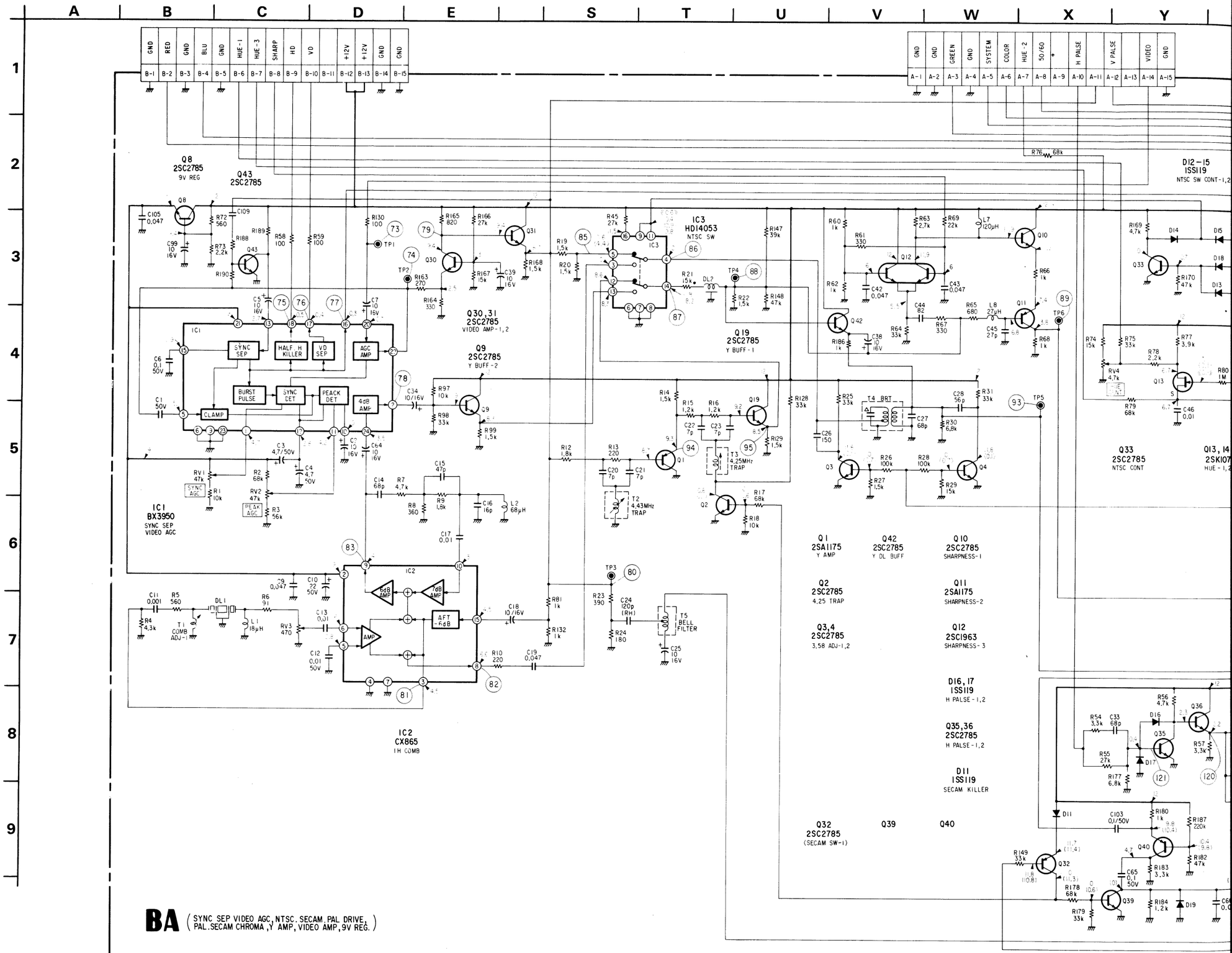
3-4. SCHEMATIC DIAGRAM

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

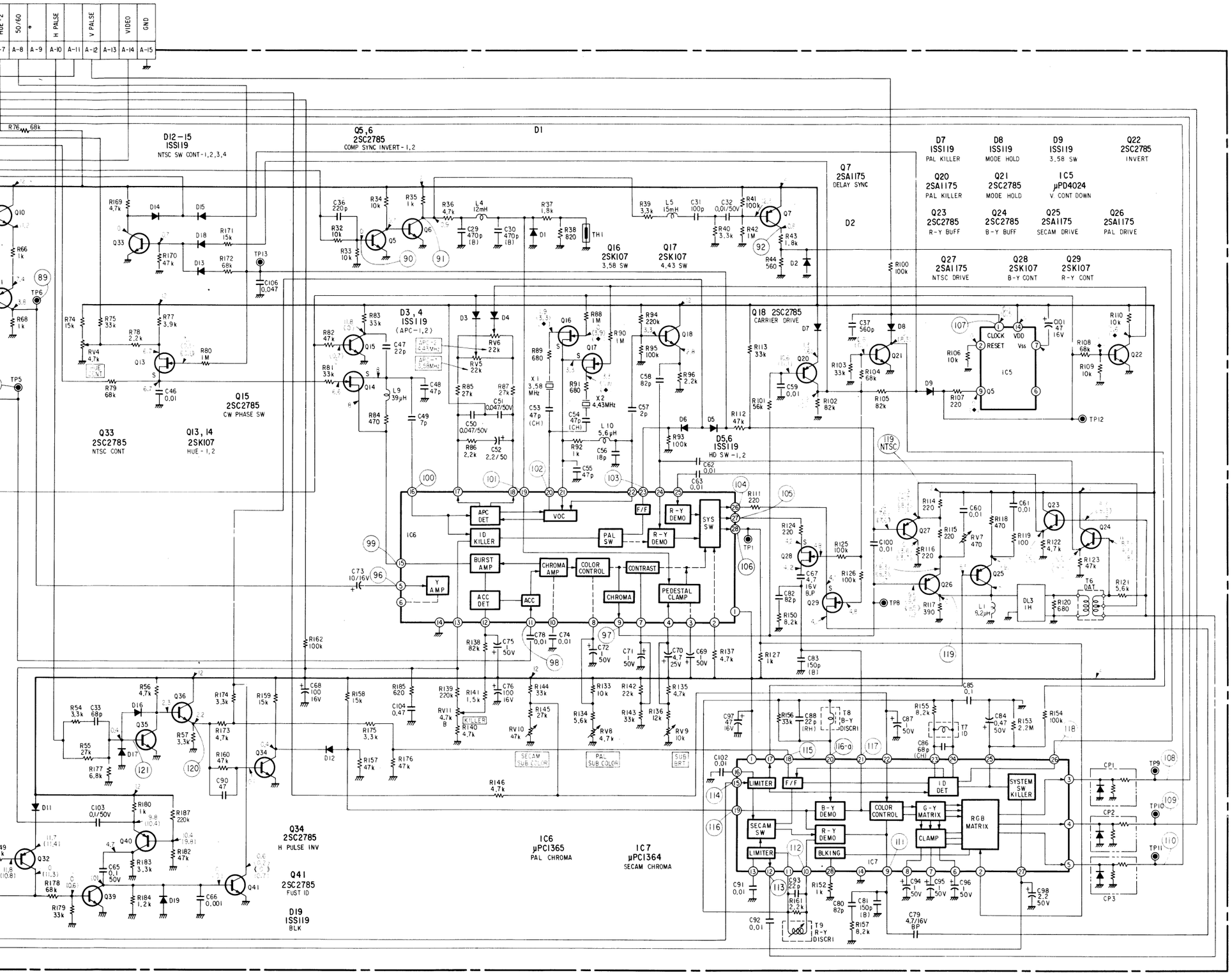
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6 W unless otherwise noted (and D board resistors are 1/4 W).
  k: 1000 Ω, M: 1000 kΩ.
- ▭ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- ——— : B + bus.
- – – – : B – bus.
- Voltage variations may be noted due to normal production tolerances.
- ▭ : adjustment for repair.

- No mark: PAL mode
- ⩽ ⩾: NTSC 4.43 mode
- < >: NTSC 3.58 mode
- ( ): SECAM mode


A B C D E S T U V W X Y
1 2 3 4 5 6 7 8 9
GND RED GND BLU GND HUE-1 HUE-3 SHARP HD VD +12V +12V GND GND
B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12 B-13 B-14 B-15
GND GND GREEN GND SYSTEM COLOR HUE-2 50/60 H PALSE V PALSE VIDEO GND
A-1 A-2 A-3 A-4 A-5 A-6 A-7 A-8 A-9 A-10 A-11 A-12 A-13 A-14 A-15
Q8 2SC2785 9V REG
Q43 2SC2785
IC1 BX3950 SYNC SEP VIDEO AGC
IC2 CX865 1H COMB
IC3 HD14053 NTSC SW
Q30,31 2SC2785 VIDEO AMP-1,2
Q9 2SC2785 Y BUFF-2
Q19 2SC2785 Y BUFF-1
T1 COMB ADJ-1
T2 4.43MHz TRAP
T3 4.25MHz TRAP
T4 BRT
T5 BELL FILTER
DL1
DL2
D12-15 ISS119 NTSC SW CONT-1,2
Q33 2SC2785 NTSC CONT
Q13,14 2SK107 HUE-1,2
Q1 2SA1175 Y AMP
Q42 2SC2785 Y DL BUFF
Q10 2SC2785 SHARPNESS-1
Q2 2SC2785 4.25 TRAP
Q11 2SA1175 SHARPNESS-2
Q3,4 2SC2785 3.58 ADJ-1,2
Q12 2SC1963 SHARPNESS-3
D16,17 ISS119 H PALSE-1,2
Q35,36 2SC2785 H PALSE-1,2
D11 ISS119 SECAM KILLER
Q32 2SC2785 (SECAM SW-1)
Q39
Q40
SYNC SEP
HALF H KILLER
VD SEP
AGC AMP
BURST PULSE
SYNC DET
PEACK DET
4dB AMP
CLAMP
SYNC AGC
PEAK AGC
6dB AMP
7dB AMP
AFT -8dB
AMP

BA (SYNC SEP VIDEO AGC, NTSC. SECAM. PAL DRIVE, PAL. SECAM CHROMA, Y AMP, VIDEO AMP, 9V REG.)



- Voltage table of IC6

Pin \ Mode	PAL	SECAM	NTSC 3.58	NTSC 4.43
1	12	12	12	12
2	11.8	11.8	11.8	11.8
3	8.5	8.5	8.5	8.5
4	8.5	8.5	8.5	8.5
5	2.8	2.8	2.8	2.8
6	2	2.1	2.2	2.2
7	7.4	7.4	7.4	7.4
8	5.4	5.4	5.4	5.4
9	9.5	11.2	9.5	9.5
10	2	2	2	2
11	1.3	1.3	1.3	1.3
12	9.2	9.4	9.1	9.3
13	6.1	8.1	6.1	6.1
14	0	0	0	0
15	8	8	8	8
16	4.4	4.4	4.4	4.4
17	7.7	7.8	7.9	7.8
18	7.7	7.8	8	7.8
19	0.2	0.2	0.3	0.3
20	9.3	9.3	9.3	9.3
21	3.3	3.3	3.3	3.3
22	3.3	3.3	3.3	3.3
23	0.6	0.6	0.2	0.2
24	2.8	2.8	2.8	2.8
25	2.8	2.8	2.8	2.8
26	4.1	4.1	4.1	4.1
27	4.2	4.2	4.2	4.2
28	10	10	10	10

- Voltage table of IC7

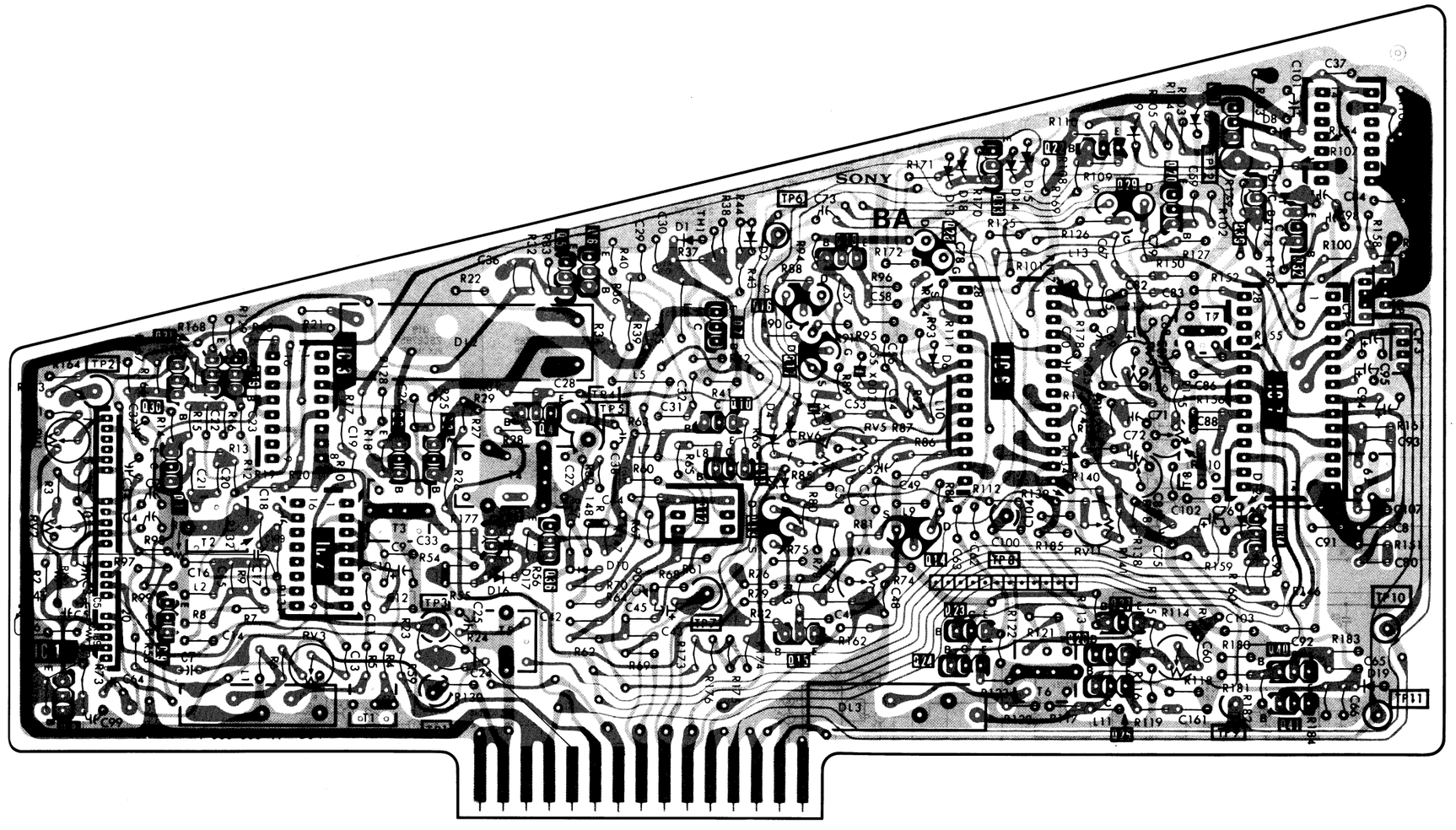
Pin \ Mode	PAL	SECAM	NTSC 3.58	NTSC 4.43
1	12	12	12	12
2	10	10	10	10
3	3	3.3	2.7	2.6
4	2.9	2.6	2.6	2.6
5	2.9	2.6	2.6	2.6
6	1.6	1.6	1.6	1.6
7	1.2	1.2	1.2	1.2
8	1.6	1.6	1.6	1.6
9	9.5	9.5	9.5	9.5
10	2.3	2.3	2.3	2.3
11	2.3	2.3	2.3	2.3
12	2.3	2.3	2.3	2.3
13	2.3	2.3	2.3	2.3
14	0	0	0	0
15	2.3	2.3	2.3	2.3
16	2.3	2.3	2.3	2.3
17	11	8.5	11	11
18	0.5	0.5	0.5	0.5
19	7.3	7.3	7.3	7.3
20	2.3	2.3	2.3	2.3
21	9.5	9.5	9.5	9.5
22	6.9	6.9	6.9	6.9
23	2.3	2.3	2.3	2.3
24	2.3	2.3	2.3	2.3
25	6.2	8.3	6.2	6.2
26	0.2	0.2	0.2	0.2
27	11.8	10.8	11.8	11.8
28	0	0	0	0

3-5. PRINTED WIRING BOARD

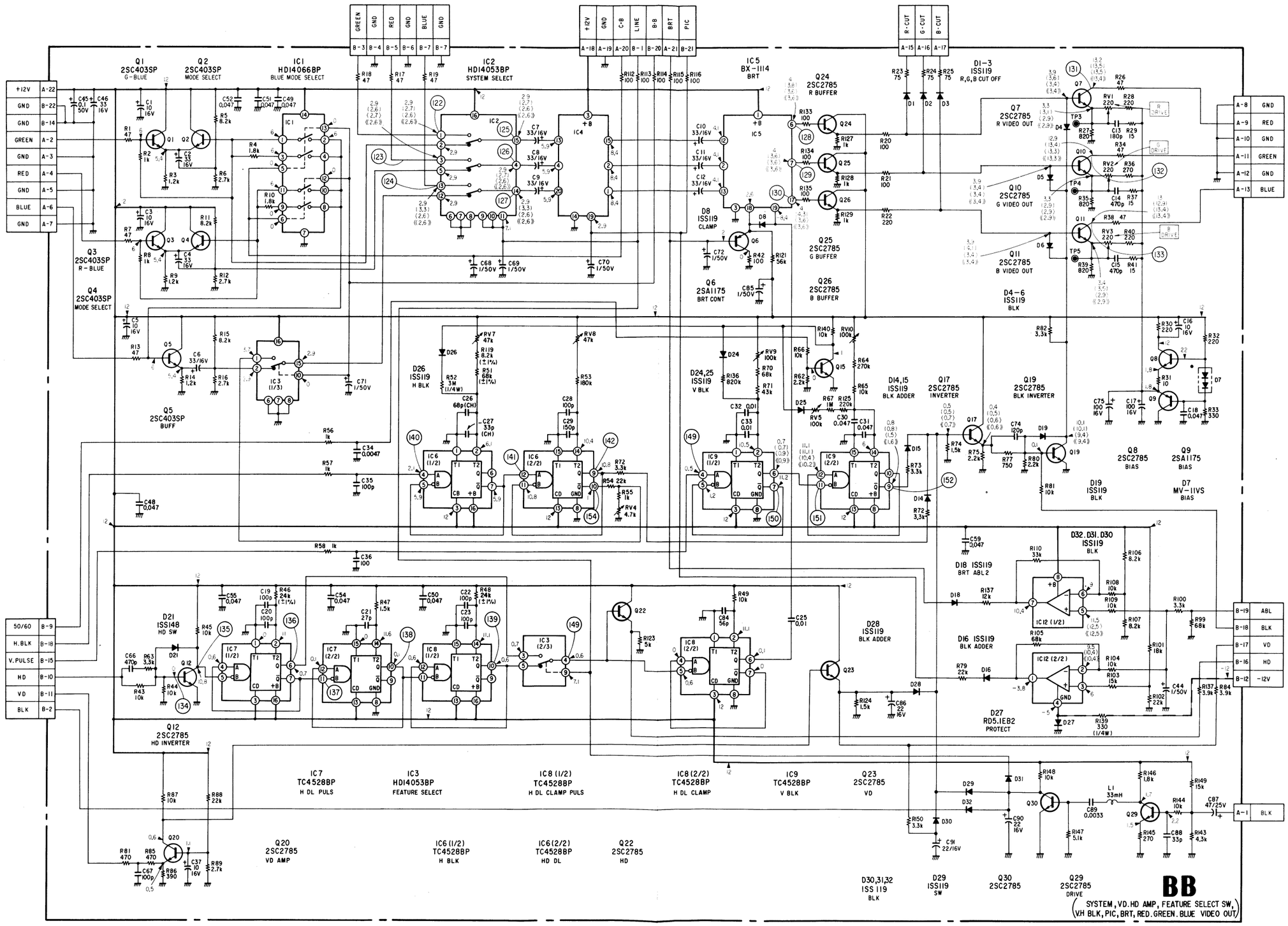
– Conductor Side –

BA [SYNC SEP VIDEO AGC, NTSC. SECAM. PAL DRIVE, PAL. SECAM CHROMA, Y AMP, VIDEO AMP, 9 V REG]

– BA Board –



IC, Q	D	ADJ	TP
21 22 IC5 33 29 20 39 32 18 28 5 6 16 7 17 30 31 19 IC6 IC7 IC3 4 10 2 3 1 11 12 IC1 13 14 34 35 36 IC2 43 9 27 15 23 26 24 40 8 25 41	7 9 8 15 13 18 14 1 2 6 3 4 5 12 17 16 19	RV9 RV10 RV1 RV5 RV6 RV8 RV11 RV12 RV4 RV7 RV3	TP12 TP6 TP2 TP4 TP5 TP8 TP7 TP10 TP3 TP1 TP11 TP9
IC, Q	D	ADJ	TP

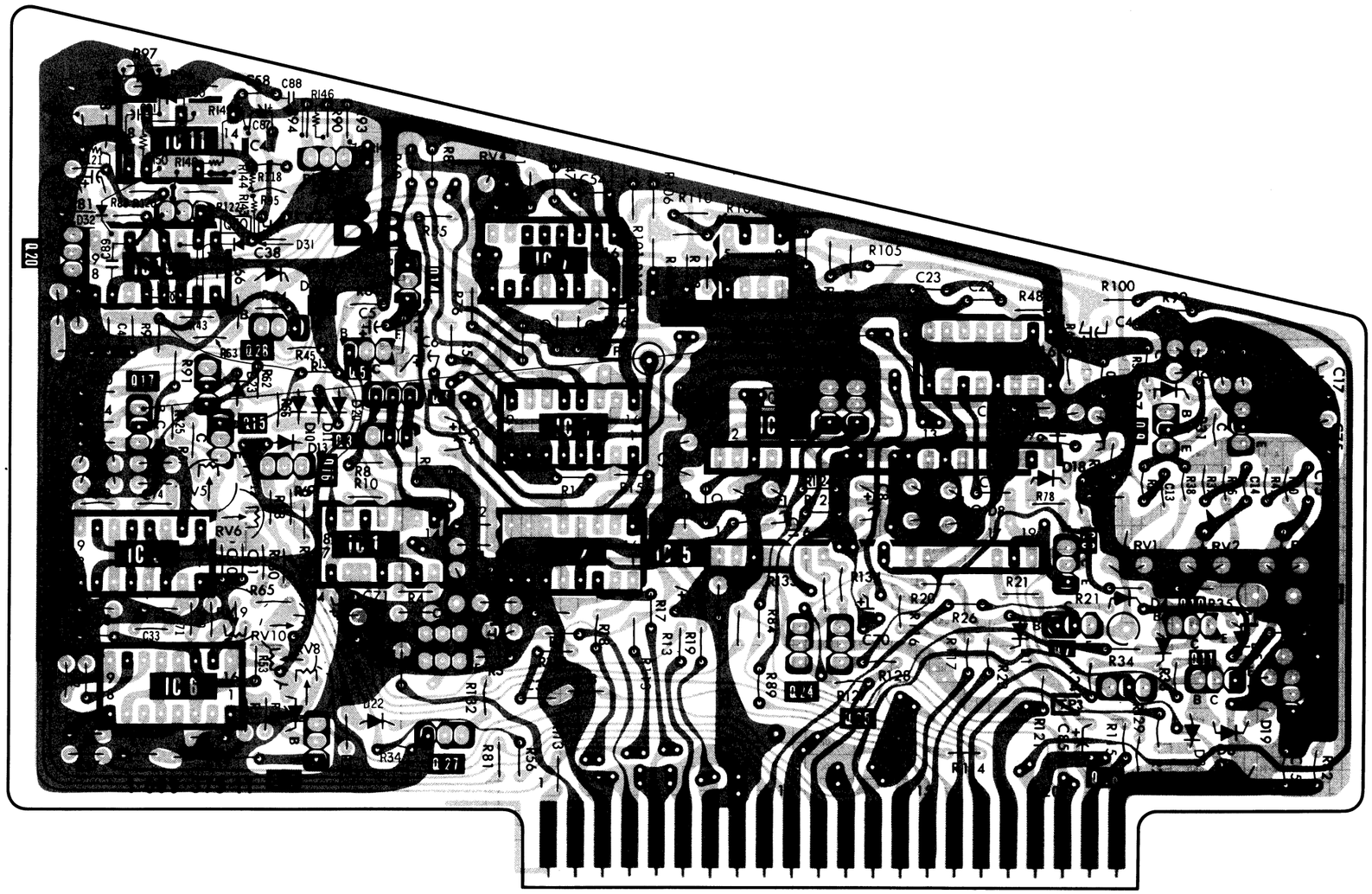

A B C D E F G H I J K L M N O
1 2 3 4 5 6 7 8 9 10
GREEN GND RED GND BLUE GND
B-3 B-4 B-5 B-6 B-7 B-7
+12V GND C-B LINE B-B BRT PIC
A-18 A-19 A-20 B-1 B-20 A-21 B-21
R-CUT G-CUT B-CUT
A-15 A-16 A-17
+12V A-22
GND B-22
GND B-14
GREEN A-2
GND A-3
RED A-4
GND A-5
BLUE A-6
GND A-7
A-8 GND
A-9 RED
A-10 GND
A-11 GREEN
A-12 GND
A-13 BLUE
50/60 B-9
H.BLK B-18
V.PULSE B-15
HD B-10
VD B-11
BLK B-2
B-19 ABL
B-18 BLK
B-17 VD
B-16 HD
B-12 -12V
A-1 BLK
Q1 2SC403SP G-BLUE
Q2 2SC403SP MODE SELECT
Q3 2SC403SP R-BLUE
Q4 2SC403SP MODE SELECT
Q5 2SC403SP BUFF
IC1 HD14066BP BLUE MODE SELECT
IC2 HDI4053BP SYSTEM SELECT
IC3 HDI4053BP FEATURE SELECT
IC4
IC5 BX-1114 BRT
Q6 2SA1175 BRT CONT
Q7 2SC2785 R VIDEO OUT
Q10 2SC2785 G VIDEO OUT
Q11 2SC2785 B VIDEO OUT
Q24 2SC2785 R BUFFER
Q25 2SC2785 G BUFFER
Q26 2SC2785 B BUFFER
D1-3 ISS119 R,G,B CUT OFF
D4-6 ISS119 BLK
D8 ISS119 CLAMP
Q12 2SC2785 HD INVERTER
D21 ISS148 HD SW
IC6 (1/2) TC4528BP H BLK
IC6 (2/2) TC4528BP HD DL
IC7 (1/2) TC4528BP H DL PULS
IC7 (2/2) TC4528BP H DL CLAMP PULS
IC8 (1/2) TC4528BP H DL CLAMP PULS
IC8 (2/2) TC4528BP H DL CLAMP
IC9 (1/2) TC4528BP V BLK
IC9 (2/2) TC4528BP VD
Q20 2SC2785 VD AMP
Q22 2SC2785 HD
Q23 2SC2785 VD
D14,15 ISS119 BLK ADDER
Q17 2SC2785 INVERTER
Q19 2SC2785 BLK INVERTER
Q8 2SC2785 BIAS
Q9 2SA1175 BIAS
D7 MV-1IVS BIAS
D19 ISS119 BLK
D18 ISS119 BRT ABL2
D32,31,30 ISS119 BLK
IC12 (1/2)
IC12 (2/2)
D16 ISS119 BLK ADDER
D27 RD5.1EB2 PROTECT
D28 ISS119 BLK ADDER
D30,31,32 ISS 119 BLK
D29 ISS119 SW
Q30 2SC2785
Q29 2SC2785 DRIVE
BB
SYSTEM, VD. HD AMP, FEATURE SELECT SW, VH BLK, PIC, BRT, RED. GREEN. BLUE VIDEO OUT

BB [SYSTEM. FEATURE SELECT SW, V.H BLK, PIC, BRT, RED. GREEN. BLUE VIDEO OUT, VD.HD AMP]

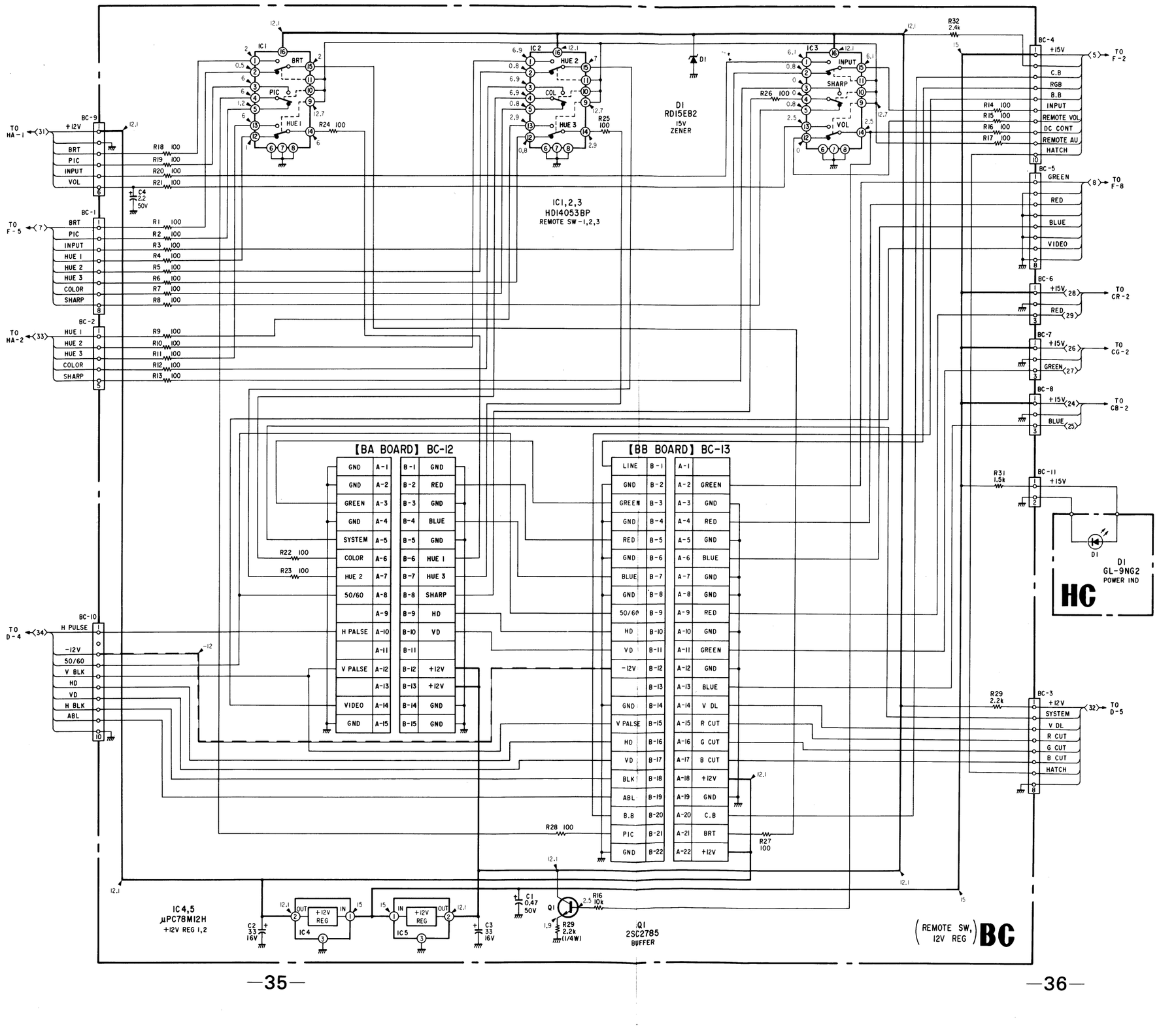
A B C D E F G H I J K L M N O

1 2 3 4 5 6 7 8 9 10

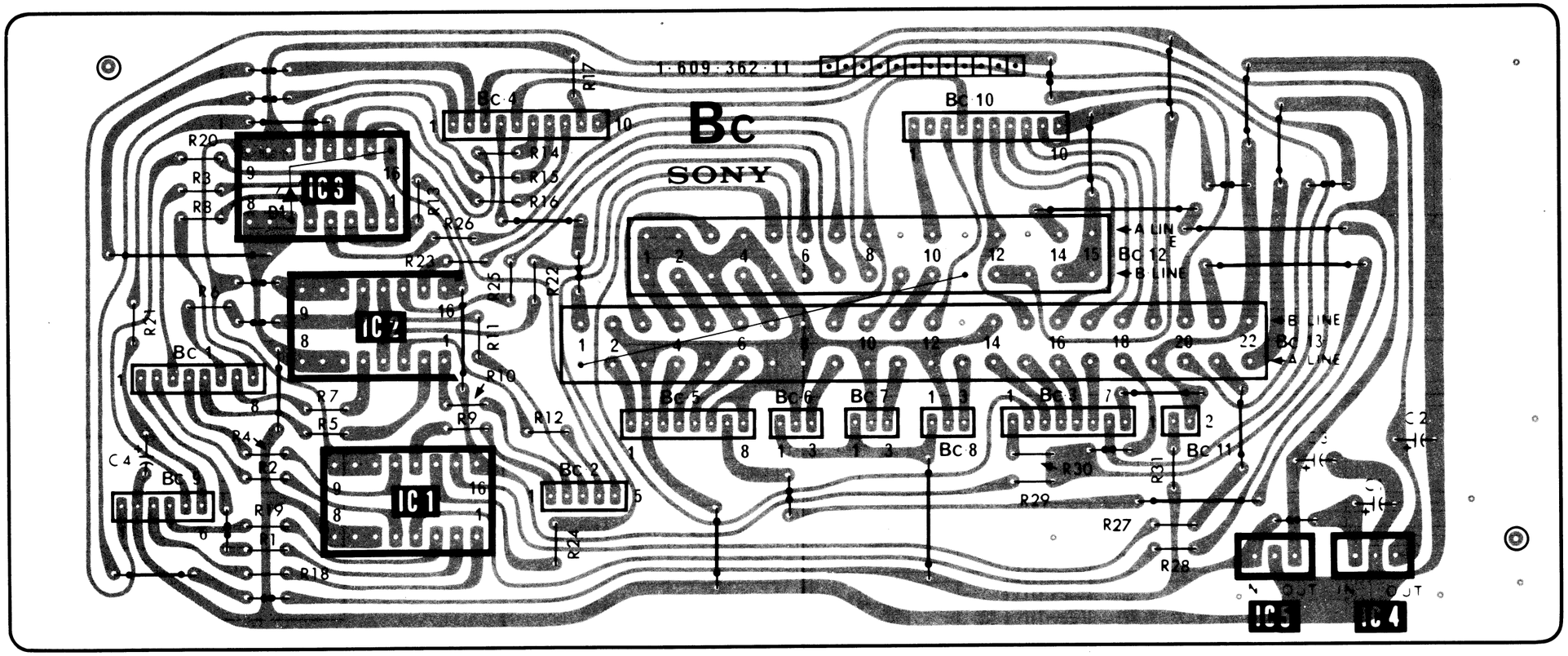
— BB Board —



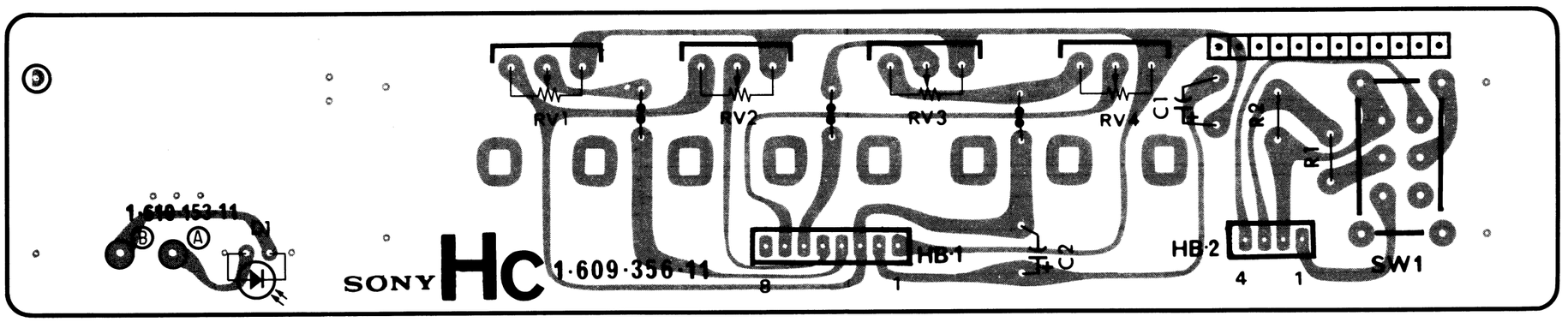
IC Q	D	ADJ	TP
IC11 29	29 30 32 31	RV4	
18			
20 IC7 IC12 IC10 14	21		
12 5 IC8	28		TP6
28 4 23 22	23 7 10 11 20		
17 IC3 9 8 15 3 IC4 16	16 17 14 13 15 18	RV5	
IC9, IC1 , IC2, IC5 6		RV6 RV1, RV2 , RV3	
2 7 10 24 25 1 IC6 26 11 19	4 1 5 19 22 3 6	RV9 RV8 RV7	TP5 TP2, TP4 TP3
13 27			
IC , Q	D .	ADJ	TP


IC1
IC2
IC3
BRT
PIC
HUE 1
HUE 2
HUE 3
COL
INPUT
SHARP
VOL
R24 100
R25 100
R26 100
R32 2.4k
D1
D1 RD15EB2 15V ZENER
IC1,2,3 HD14053BP REMOTE SW-1,2,3
BC-9
+12V
BRT
PIC
INPUT
VOL
R18 100
R19 100
R20 100
R21 100
C4 2.2 50V
BC-1
BRT
PIC
INPUT
HUE 1
HUE 2
HUE 3
COLOR
SHARP
R1 100
R2 100
R3 100
R4 100
R5 100
R6 100
R7 100
R8 100
BC-2
HUE 1
HUE 2
HUE 3
COLOR
SHARP
R9 100
R10 100
R11 100
R12 100
R13 100
TO HA-1 (31)
TO F-5 (7)
TO HA-2 (33)
【BA BOARD】 BC-12
GND A-1 B-1 GND
GND A-2 B-2 RED
GREEN A-3 B-3 GND
GND A-4 B-4 BLUE
SYSTEM A-5 B-5 GND
COLOR A-6 B-6 HUE 1
HUE 2 A-7 B-7 HUE 3
50/60 A-8 B-8 SHARP
A-9 B-9 HD
H PALSE A-10 B-10 VD
A-11 B-11
V PALSE A-12 B-12 +12V
A-13 B-13 +12V
VIDEO A-14 B-14 GND
GND A-15 B-15 GND
R22 100
R23 100
【BB BOARD】 BC-13
LINE B-1 A-1
GND B-2 A-2 GREEN
GREEN B-3 A-3 GND
GND B-4 A-4 RED
RED B-5 A-5 GND
GND B-6 A-6 BLUE
BLUE B-7 A-7 GND
GND B-8 A-8 GND
50/60 B-9 A-9 RED
HD B-10 A-10 GND
VD B-11 A-11 GREEN
-12V B-12 A-12 GND
B-13 A-13 BLUE
GND B-14 A-14 V DL
V PALSE B-15 A-15 R CUT
HD B-16 A-16 G CUT
VD B-17 A-17 B CUT
BLK B-18 A-18 +12V
ABL B-19 A-19 GND
B.B B-20 A-20 C.B
PIC B-21 A-21 BRT
GND B-22 A-22 +12V
R28 100
R27 100
BC-10
H PULSE
-12V
50/60
V BLK
HD
VD
H BLK
ABL
TO D-4 (34)
BC-4
+15V
C.B
RGB
B.B
INPUT
REMOTE VOL
DC CONT
REMOTE AU
HATCH
R14 100
R15 100
R16 100
R17 100
TO F-2 (5)
BC-5
GREEN
RED
BLUE
VIDEO
TO F-8 (8)
BC-6
+15V
RED
TO CR-2 (28) (29)
BC-7
+15V
GREEN
TO CG-2 (26) (27)
BC-8
+15V
BLUE
TO CB-2 (24) (25)
BC-11
+15V
R31 1.5k
D1 GL-9NG2 POWER IND
HC
BC-3
+12V
SYSTEM
V DL
R CUT
G CUT
B CUT
HATCH
R29 2.2k
TO D-5 (32)
IC4,5 μPC78M12H +12V REG 1,2
IC4
IC5
+12V REG
C1 0.47 50V
C2 33 16V
C3 33 16V
Q1 2SC2785 BUFFER
R16 10k
R29 2.2k (1/4W)
(REMOTE SW, 12V REG) BC

– BC Board –



– HC Board –



3-6. SEMIC

BX1113
BX1114
BX1222
BX3950-1

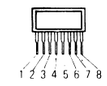
(Marking side view)

BX1120
BX1121

(Marking side view)

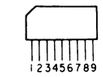
CX7916
NJM4558D
µPC393C
µPC4558C

CX7948

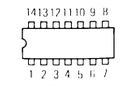


CX865
HD14052BP
HD14053BP
HD14538BP
TC4052BP
TC4053BP

CX894



HD14066BP
TC4024BP
µPC339C
µPD4024BC



LA2600

3-6. SEMICONDUCTROS

BX1113
BX1114
BX1222
BX3950-1

(Marking side view)

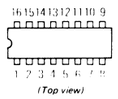
BX1120
BX1121

(Marking side view)

CX7916
NJM4558D
μPC393C
μPC4558C

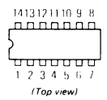
CX7948

CX865
HD14052BP
HD14053BP
HD14538BP
TC4052BP
TC4053BP

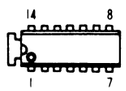


CX894

HD14066BP
TC4024BP
μPC339C
μPD4024BC



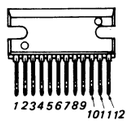
LA2600



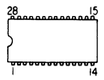
M5214L
μPC1037H

M5218L

μPC1277H

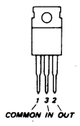


μPC1364C2
μPC1365C



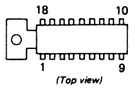
μPC7808H
μPC7812H
μPC78M12H

μPC7908H
μPC7912H



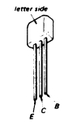
μPC78L12

2SA1015
2SA733
2SC1363
2SC1364
2SC1815
2SC945

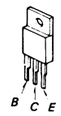


2SA1026

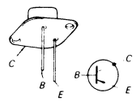
2SA1175
2SA1175F
2SC2785



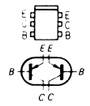
2SB856
2SB861
2SC1061
2SD1138
2SD478



2SC1413A

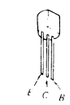


2SC1963

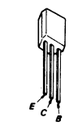


2SC2278

2SC2383

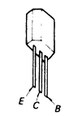


2SC2458
2SC403SP
2SC2603
2SC634SP

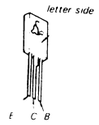


2SC2959

2SC403C

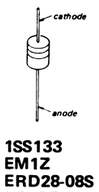


2SD669A

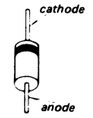


2SK107

1SS119
1SS120
1SS148

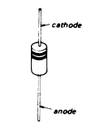


1SS133
EM1Z
ERD28-08S
RD15E-B2
RD5.1E-B2
RD5.6E-B2
RD5.6E-L3

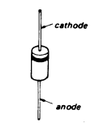


CR02AM-4

EQA01-05T1

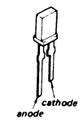


ERB12-02RK
GP08D

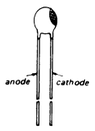


ERC26-15S

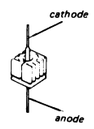
GL9NG2



MV11VS

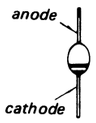


S15H

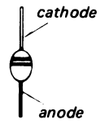


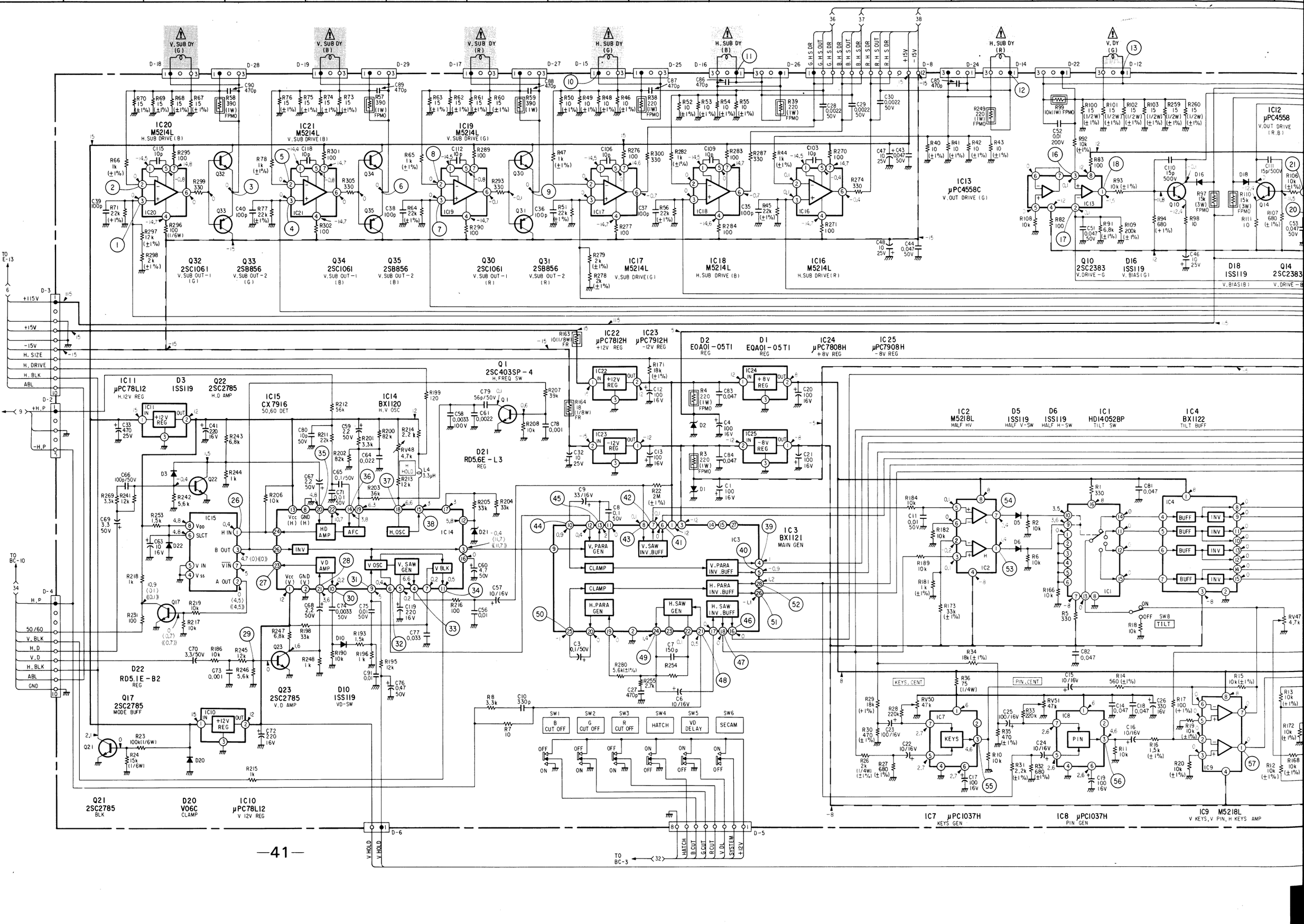
SEL2110R
TLG124A

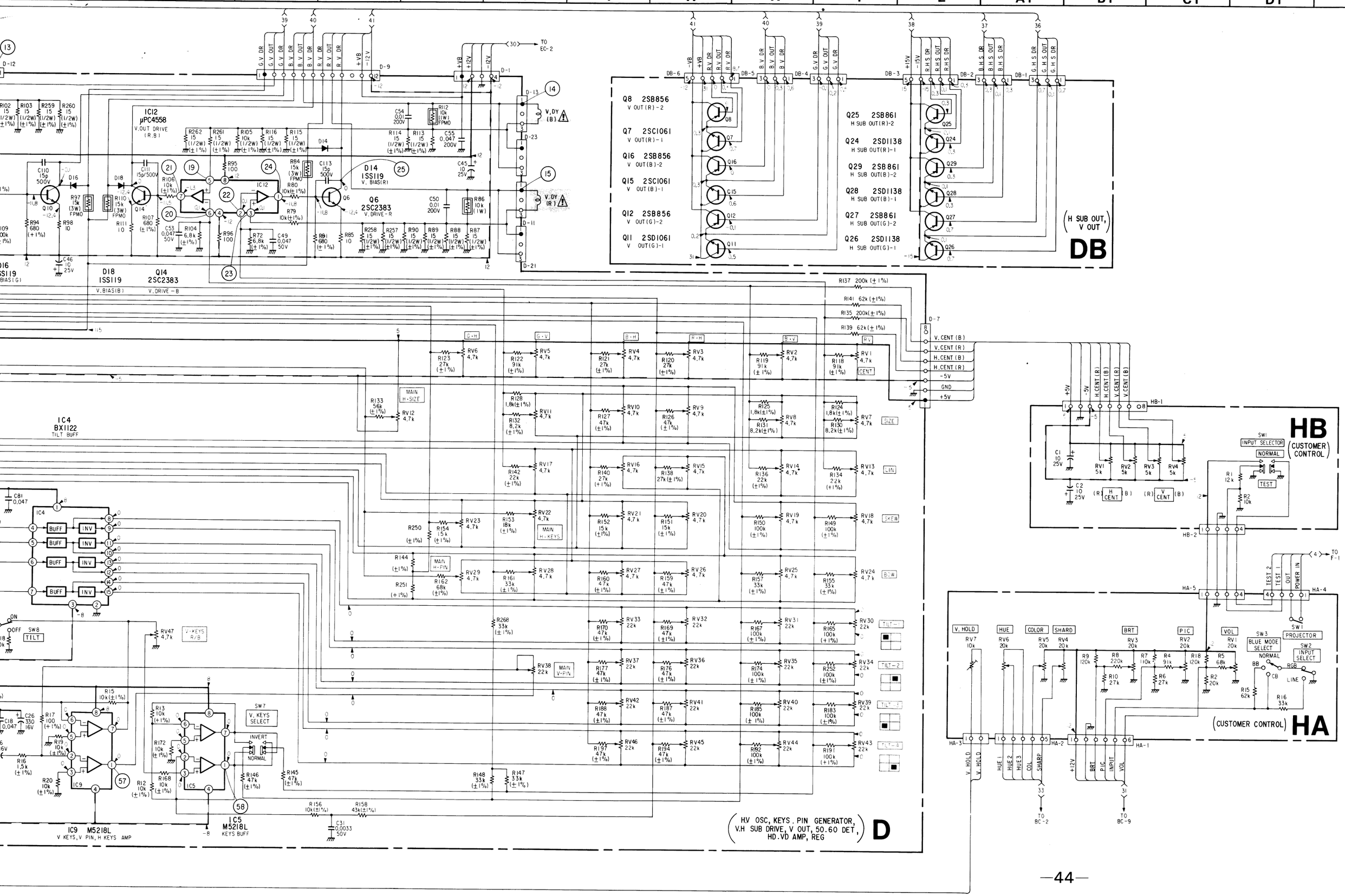
SIB01-02
V06C



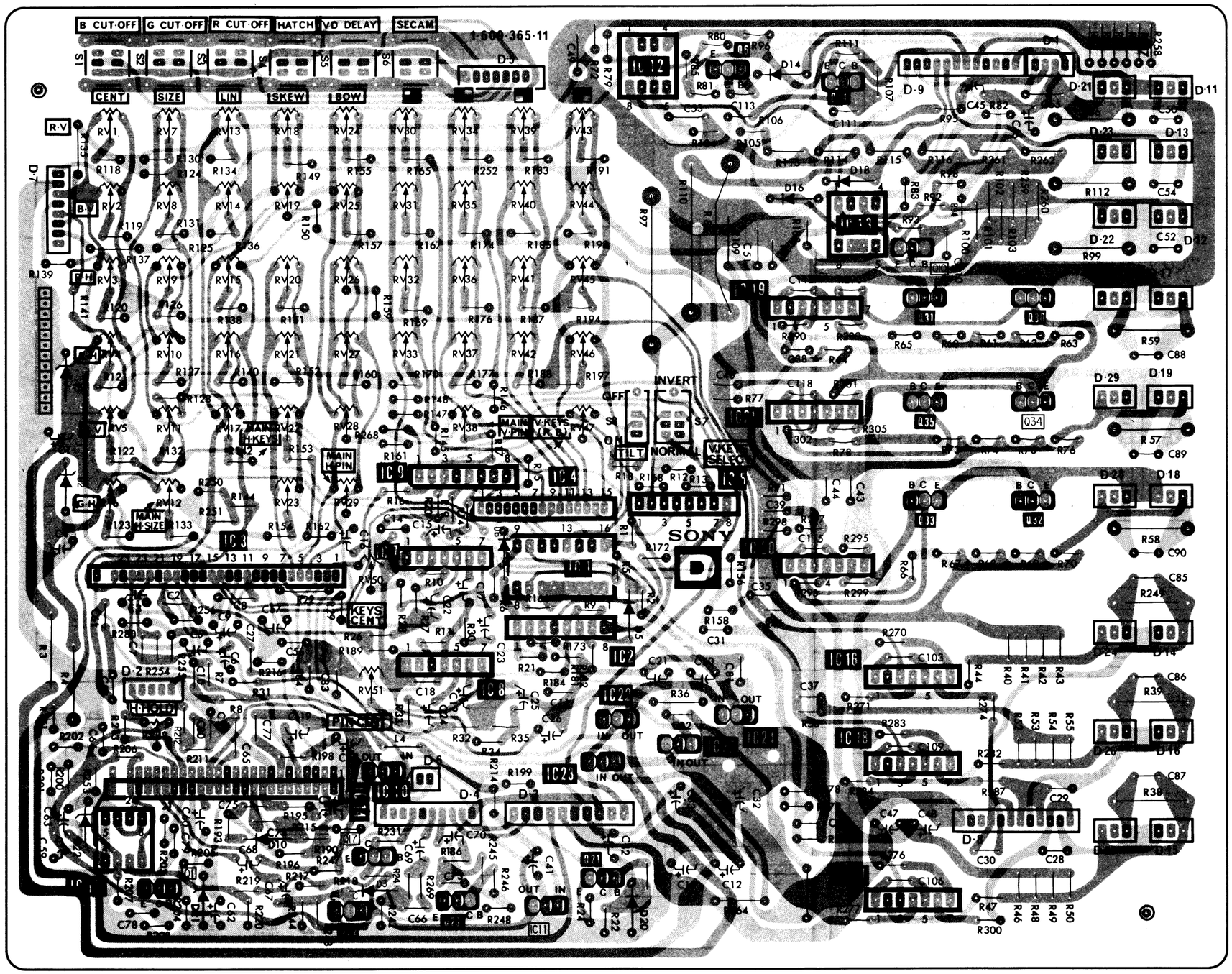
U05E
V11N




V. SUB DY (G)
V. SUB DY (B)
V. SUB DY (R)
H. SUB DY (G)
H. SUB DY (B)
H. SUB DY (R)
V. DY (G)
IC20 M5214L H.SUB DRIVE (B)
IC21 M5214L V.SUB DRIVE (B)
IC19 M5214L V.SUB DRIVE (G)
IC12 µPC4558 V.OUT DRIVE (R,B)
IC13 µPC4558C V.OUT DRIVE (G)
Q32 2SC1061 V.SUB OUT-1 (G)
Q33 2SB856 V.SUB OUT-2 (G)
Q34 2SC1061 V.SUB OUT-1 (B)
Q35 2SB856 V.SUB OUT-2 (B)
Q30 2SC1061 V.SUB OUT-1 (R)
Q31 2SB856 V.SUB OUT-2 (R)
IC17 M5214L V.SUB DRIVE(G)
IC18 M5214L H.SUB DRIVE (B)
IC16 M5214L H.SUB DRIVE(R)
Q10 2SC2383 V.DRIVE -G
D16 ISS119 V. BIAS(G)
D18 ISS119 V.BIAS(B)
Q14 2SC2383 V.DRIVE -B
TO E-13
+115V
+15V
-15V
H. SIZE
H. DRIVE
H. BLK
ABL
+H.P
-H.P
IC11 µPC78L12 H.12V REG
D3 ISS119
Q22 2SC2785 H.D AMP
IC15 CX7916 50,60 DET
IC14 BX1120 H.V OSC
Q1 2SC403SP-4 H.FREQ SW
D21 RD5.6E-L3 REG
IC22 µPC7812H +12V REG
IC23 µPC7912H -12V REG
D2 EQA01-05TI REG
D1 EQA01-05TI REG
IC24 µPC7808H +8V REG
IC25 µPC7908H -8V REG
IC2 M5218L HALF HV
D5 ISS119 HALF V-SW
D6 ISS119 HALF H-SW
IC1 HD14052BP TILT SW
IC4 BX1122 TILT BUFF
IC3 BX1121 MAIN GEN
V.PARA GEN
CLAMP
V.SAW INV.BUFF
H.PARA GEN
H.SAW GEN
V.PARA INV.BUFF
H.PARA INV.BUFF
H.SAW INV.BUFF
SW1 B CUT OFF
SW2 G CUT OFF
SW3 R CUT OFF
SW4 HATCH
SW5 VD DELAY
SW6 SECAM
SW8 TILT
KEYS, CENT
PIN, CENT
IC7 µPC1037H KEYS GEN
IC8 µPC1037H PIN GEN
IC9 M5218L V KEYS, V PIN, H KEYS AMP
TO BC-10
H. P
50/60
V. BLK
H. D
V. D
H. BLK
ABL
GND
Q17 2SC2785 MODE BUFF
D22 RD5.1E-B2 REG
Q23 2SC2785 V.D AMP
D10 ISS119 VD-SW
Q21 2SC2785 BLK
D20 V06C CLAMP
IC10 µPC78L12 V 12V REG
V HOLD
TO BC-3
HATCH
B.CUT
G.CUT
R.CUT
V.DL
SYSTEM
+12V
TO EC-1
+H.P
-H.P


IC12
μPC4558
V.OUT DRIVE (R.B)
D18
ISS119
V.BIAS(B)
Q14
2SC2383
V.DRIVE-B
D14
ISS119
V.BIAS(R)
Q6
2SC2383
V.DRIVE-R
IC4
BX1122
TILT BUFF
IC9
M5218L
V KEYS, V PIN, H KEYS AMP
IC5
M5218L
KEYS BUFF
TO EC-2
V.DY (B)
V.DY (R)
Q8 2SB856 V OUT(R)-2
Q7 2SC1061 V OUT(R)-1
Q16 2SB856 V OUT(B)-2
Q15 2SC1061 V OUT(B)-1
Q12 2SB856 V OUT(G)-2
Q11 2SD1061 V OUT(G)-1
Q25 2SB861 H SUB OUT(R)-2
Q24 2SD1138 H SUB OUT(R)-1
Q29 2SB861 H SUB OUT(B)-2
Q28 2SD1138 H SUB OUT(B)-1
Q27 2SB861 H SUB OUT(G)-2
Q26 2SD1138 H SUB OUT(G)-1
(H SUB OUT, V OUT)
DB
R137 200k (±1%)
R141 62k (±1%)
R135 200k (±1%)
R139 62k (±1%)
V.CENT (B)
V.CENT (R)
H.CENT (B)
H.CENT (R)
-5V
GND
+5V
MAIN H-SIZE
MAIN H-KEYS
MAIN H-PIN
MAIN V-PIN
V-KEYS R/B
SW7 V. KEYS SELECT
INVERT
NORMAL
SW8 TILT
SKEW
BOW
TILT-1
TILT-2
TILT-3
TILT-4
(H.V OSC, KEYS. PIN GENERATOR, V.H SUB DRIVE, V OUT, 50.60 DET, HD.VD AMP, REG)
D
HB
(CUSTOMER CONTROL)
SW1 INPUT SELECTOR
NORMAL
TEST
SW2 INPUT SELECT
SW3 BLUE MODE SELECT
PROJECTOR
V. HOLD
HUE
COLOR
SHARD
BRT
PIC
VOL
(CUSTOMER CONTROL)
HA
TO F-1
TO BC-2
TO BC-9

— D Board —

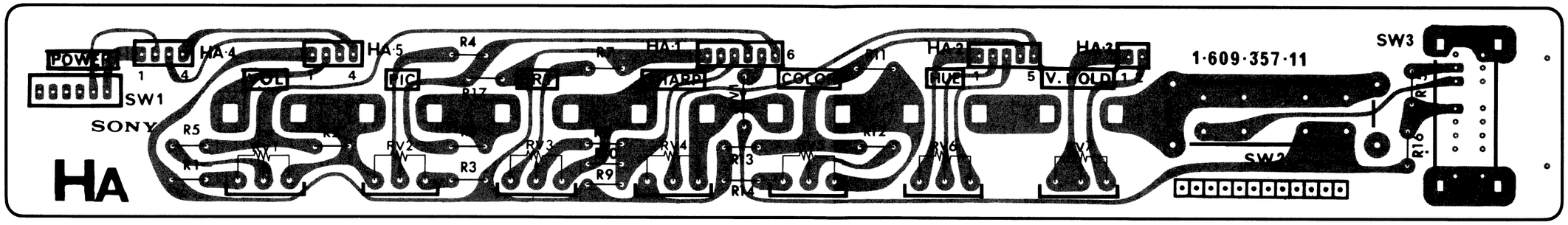


IC , Q	D	ADJ
IC12 6 14	14	
		RV1, RV7, RV13, RV18, RV24 RV30, RV34, RV39, RV43
	18 16	RV2, RV8, RV14, RV19, RV25 RV31, RV35, RV40, RV44
IC13		
		RV3, RV9, RV15, RV20, RV26 RV32, RV36, RV41, RV45
31 30 IC19		
		RV4, RV10, RV16, RV21, RV27 RV33, RV37, RV42, RV46
	1	
IC21 35 34		RV5, RV11, RV17, RV22, RV28 RV38, RV47
IC9 IC4, IC5, 33, 32	2	RV6, RV12, RV23, RV29
IC7 IC1 IC20 IC3	6	RV50
IC2	5	
IC8 IC16		RV51
IC22 IC24		RV49
IC25 IC23 IC10 IC18 IC14		
IC15 17 21 I IC17 22 23 IC11	22 10 3 21 20	
IC , Q	D	ADJ

HA [CUSTOMER CONTROL] **DB** [H SUB OUT, V OUT] **HB** [CUSTOMER CONTROL]

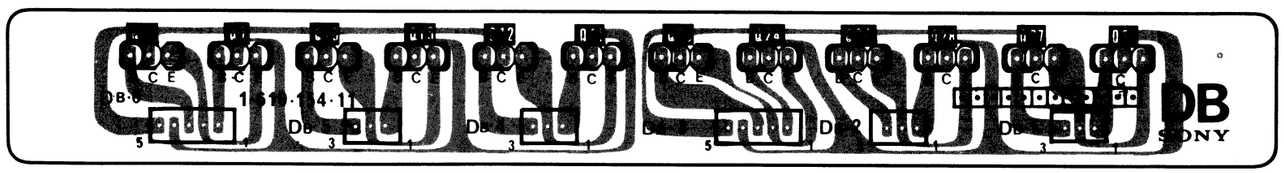
O P Q R S T U V W X Y Z A1 B1 C1 D1

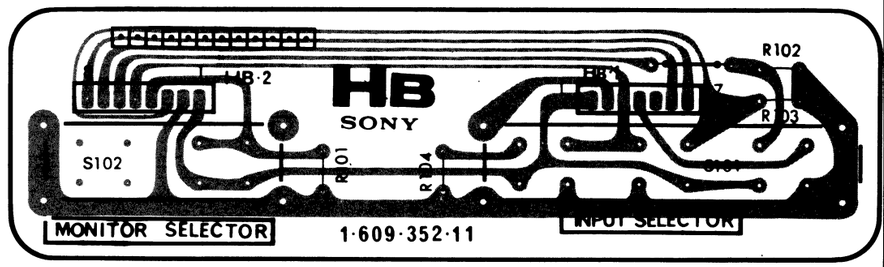
— HA Board —



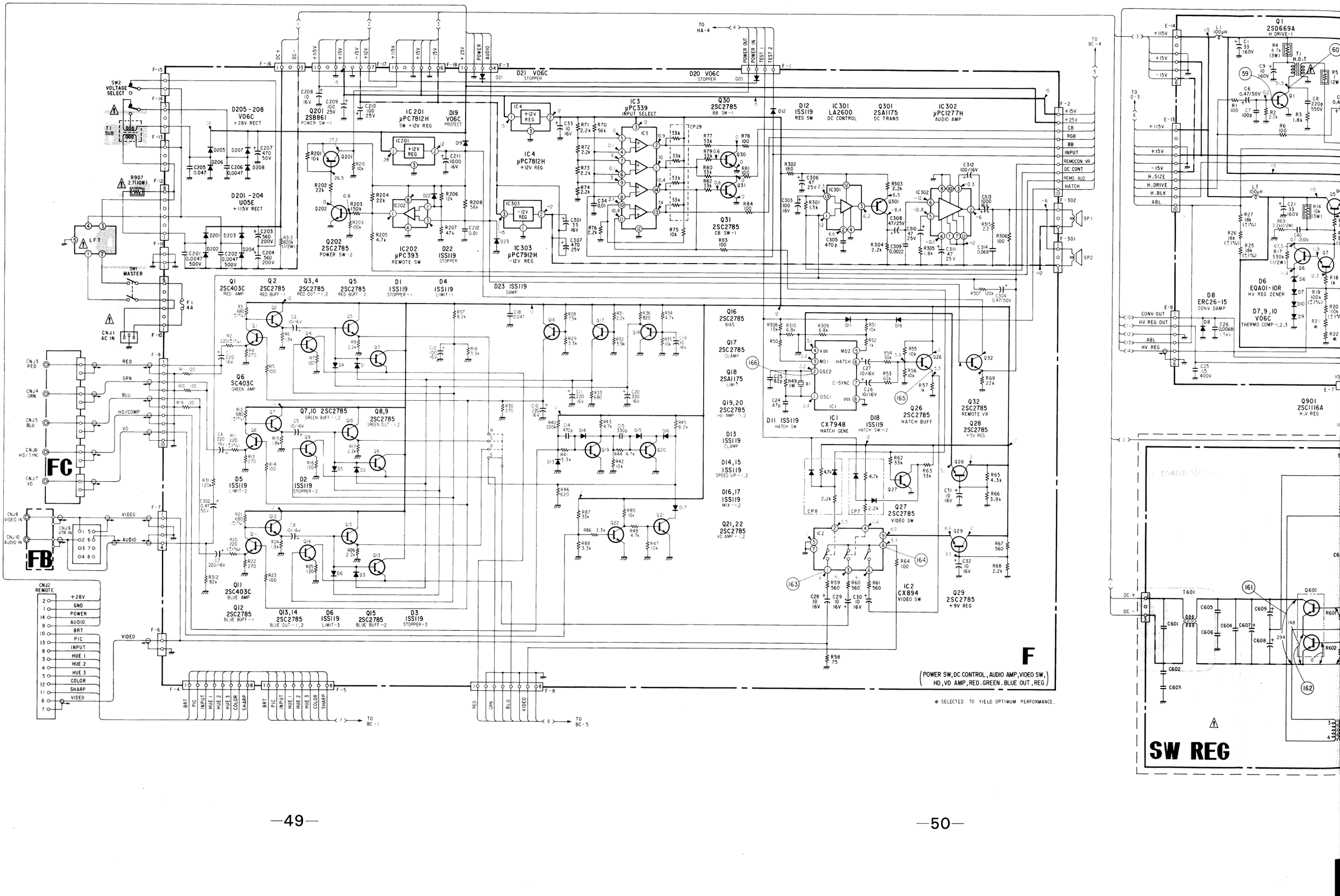
— HB Board —

— DB Board —





1 2 3 4 5 6 7 8 9 10


SW REG
FC
FB
F
SW2 VOLTAGE SELECT
T1 SUB
SW1 MASTER
F1 4A
CNJ1 AC IN
R907 2.7(10W)
D205-208 V06C +28V RECT
D201-204 U05E +115V RECT
C205 0.047
C206 0.0047
C207 470 50V
C208 10 16V
C209 100 25V
C210 100 25V
C211 1000 16V
C201 0.0047 500V
C202 0.0047 500V
C203 560 200V
C204 560 200V
R3,3 820k (1/2W)
Q201 2SB861 POWER SW-1
Q202 2SC2785 POWER SW-2
IC201 μPC7812H SW +12V REG
IC202 μPC393 REMOTE SW
IC3 μPC339 INPUT SELECT
IC4 μPC7812H +12V REG
IC303 μPC7912H -12V REG
D19 V06C PROTECT
D22 ISS119 STOPPER
D23 ISS119 DAMP
Q30 2SC2785 BB SW-1
Q31 2SC2785 CB SW-1
D12 ISS119 REG SW
IC301 LA2600 DC CONTROL
Q301 2SA1175 DC TRANS
IC302 μPC1277H AUDIO AMP
D20 V06C STOPPER
D21 V06C STOPPER
TO HA-4
TO BC-4
TO D-3
DC+
DC-
+115V
+15V
-15V
+12V
+25V
POWER
AUDIO
POWER OUT
POWER IN
TEST 1
TEST 2
F-1
F-2
F-3
F-302
F-301
SP1
SP2
+25V
CB
RGB
BB
INPUT
REMOCON VR
DC CONT
REMO AUD
HATCH
Q1 2SC403C RED AMP
Q2 2SC2785 RED BUFF-1
Q3,4 2SC2785 RED OUT-1,2
Q5 2SC2785 RED BUFF-2
D1 ISS119 STOPPER-1
D4 ISS119 LIMIT-1
Q6 SC403C GREEN AMP
Q7,10 2SC2785 GREEN BUFF-1,2
Q8,9 2SC2785 GREEN OUT-1,2
D5 ISS119 LIMIT-2
D2 ISS119 STOPPER-2
Q11 2SC403C BLUE AMP
Q12 2SC2785 BLUE BUFF-1
Q13,14 2SC2785 BLUE OUT-1,2
D6 ISS119 LIMIT-3
Q15 2SC2785 BLUE BUFF-2
D3 ISS119 STOPPER-3
Q16 2SC2785 BIAS
Q17 2SC2785 CLAMP
Q18 2SA1175 LIMIT
Q19,20 2SC2785 HD AMP-1,2
D13 ISS119 CLAMP
D14,15 ISS119 SPEED UP-1,2
D16,17 ISS119 MIX-1,2
Q21,22 2SC2785 VD AMP-1,2
D11 ISS119 HATCH SW
IC1 CX7948 HATCH GENE
D18 ISS119 HATCH SW-2
Q26 2SC2785 HATCH BUFF
Q27 2SC2785 VIDEO SW
IC2 CX894 VIDEO SW
Q28 2SC2785 +5V REG
Q29 2SC2785 +9V REG
Q32 2SC2785 REMOTE VR
CNJ2 REMOTE
+28V
GND
POWER
AUDIO
BRT
PIC
INPUT
HUE 1
HUE 2
HUE 3
COLOR
SHARP
VIDEO
CNJ3 RED
CNJ4 GRN
CNJ5 BLU
CNJ6 HD/SYNC
CNJ7 VD
CNJ8 VIDEO IN
CNJ9 VTR IN
CNJ10 AUDIO IN
TO BC-1
TO BC-5
* SELECTED TO YIELD OPTIMUM PERFORMANCE.
Q1 2SD669A H DRIVE-1
T1 H.D.T
D6 EQA01-10R HV REG ZENER
D8 ERC26-15 CONV DAMP
D7,9,10 V06C THERMO COMP-1,2,3
Q901 2SC1116A H.V REG
T601
DC +
DC -
CONV OUT
HV REG OUT
ABL
HV REG
H.SIZE
H.DRIVE
H.BLK
ABL
(POWER SW, DC CONTROL, AUDIO AMP, VIDEO SW, HD, VD AMP, RED. GREEN. BLUE OUT, REG)

E — H DRIVE, HV REG DRIVE, PIN MODE OUT, HV DET, H BLK, 12V REG

Q1 2SD669A H DRIVE-1 · Q2 2SD669A H DRIVE-2 · Q13 2SC2383 PROT · D17 TLR124 PROT IND · D18 SIB01-02 PROTECT · Q12 2SC2785 PROT DRIVE · Q11 2SA1175 PROT DET · D14 RD5.6E-B PROT ZENER · Q10 2SC2785 H.V DET · D13 ISS119 STOPER · Q9 2SA1175 IK PROT · Q8 2SC2785 IK DET · Q17 2SC2785 +12V REG

T1 H.D.T · T2 H.D.T · D22 ISS119 PROTECT · Q19 CR02AM PROTECT · D14 D15 D16 V06C THERMO COMP-1,2 · D11,12 ISS119 STOPPER

Q5 2SD669A H.V REG DRIVE · Q6,7 2SC2383 H.V REG DRIVE-1,2 · D6 EQA01-10R HV REG ZENER · D7,9,10 V06C THERMO COMP-1,2,3 · D8 ERC26-15 CONV DAMP

Q14,15 2SC2383 PIN MOD AMP-1,2 · Q3 2SD669A PIN MOD DRIVE · D1,2 ISS119 PROT-1,2 · D52,51 ISS119 PROTECT · Q4 2SD138 PIN MOD OUT · Q16 2SC2785 H BLK · D21 ISS119 H LIMIT · D20 ISS119 H SLICE · D3 ERC26-15 H DAMP · D4 ERD28-08S STOPPER · D5 ERC26-15 LOT DAMP · T4 H.O.T · L2 4.7mH · L7 680μH(W) · L4 R-H SIZE · L5 G-H SIZE · L6 B-H SIZE

Q903 2SC1413A CONV · Q902 2SC1413A H.OUT · Q901 2SC1116A H.V REG · D911 V-30N

HV.PROT · HV.BLOCK 600M 1000p/40kV 600M · R952 · R951

FOUCUS BLOCK 100p/12kV · FOCUS · SCREEN

V901R · V901G · V901B

CR (RED VIDEO OUT) — D1 ISS119 STOPPER · Q1 2SC2278 R. VIDEO OUT

CG (GREEN VIDEO OUT) — D1 ISS119 STOPPER · Q1 2SC2278 G. VIDEO OUT

CB (BLUE VIDEO OUT) — D1 ISS119 STOPPER · Q1 2SC2278 B. VIDEO OUT

TO BC-6 · TO BC-7 · TO BC-8 · +15V · RED · GRN · BLU

ED — FBT · ED-1

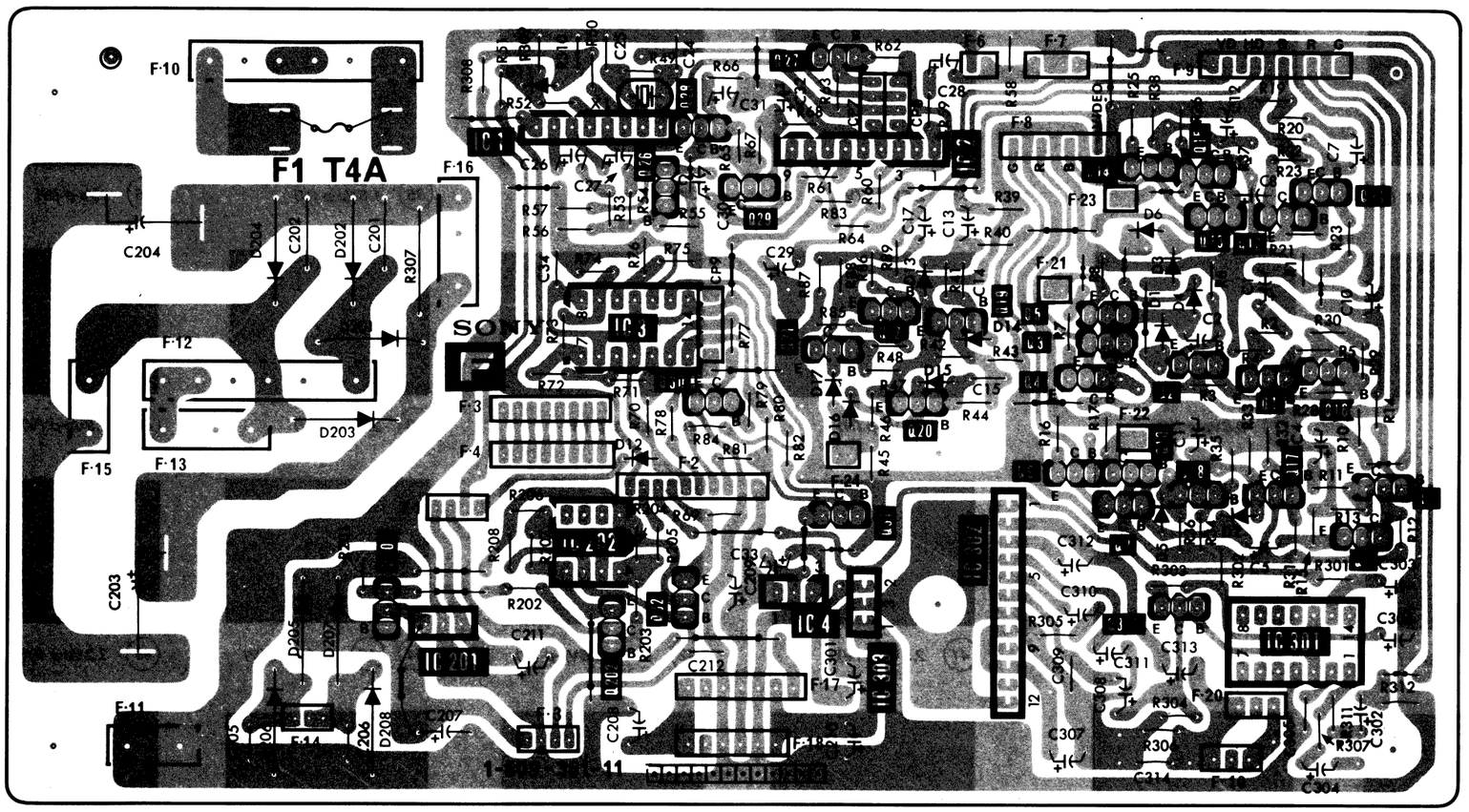
EC (RECT) — D3 S-15H -15V RECT · D6 S-15H V STOPPER · D7 S-15H V RECT · D1 V11N 200V RECT · D2 S-15H +15V RECT · F1 1.6A/125V · R2 2.7(2W) · R3 15k(2W)

EB — T01 LOT · LOT.P · +115V

W REG — T603 · D601 · D602 · D603 · D604 · D605 · L601 · L602 · L603 · L604 · L605 · L606 · +115V · +15V · -15V · +12V · T601 · Q601 · Q602 · T602 · Q651 · Q652 · D651 · D652 · Q653 · Q654 · Q655 · VREF · RT · CT

F [POWER SW, DC CONTROL, AUDIO AMP, VIDEO SW, HD.VD AMP, RED.GREEN.BLUE OUT, REG] **FC** [JACK] **E** [H DRIVE, HV REG DRIVE, PIN MODE OUT, HV DEF, H BLK, 12 V REG] **EC** [RECT] **EB** **FB** **ED**

— F Board —

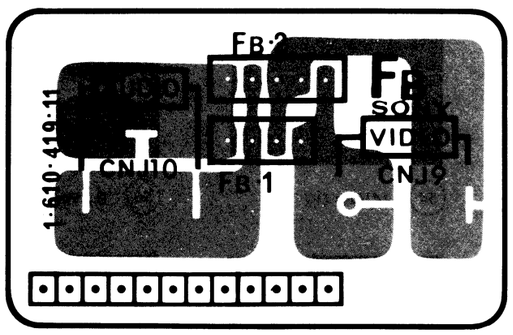


IC , Q	D
27 IC1 28 IC2 14 15 26 29 11 13 12 22 19 5 IC3 21 3 2 16 4 1 30 20 9 10 18 17 16 31 8 IC202 7 IC4 IC303 32 IC302 301 201 IC201 202 IC301	11 6 3 13 4 201 14 1 17 15 16 203 12 5 2 205 207 206 208
IC , Q	D

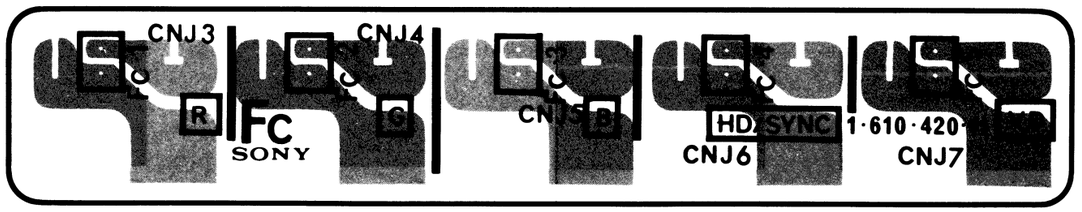
— E Board —

— EB Board —

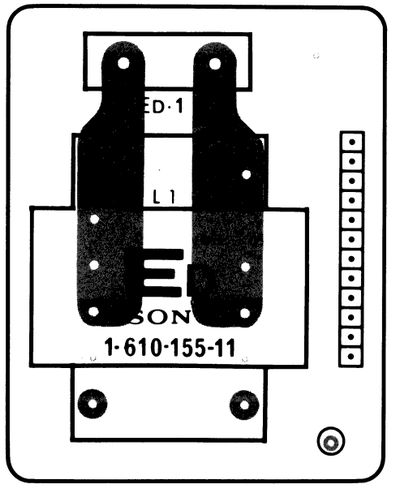
— FB Board —



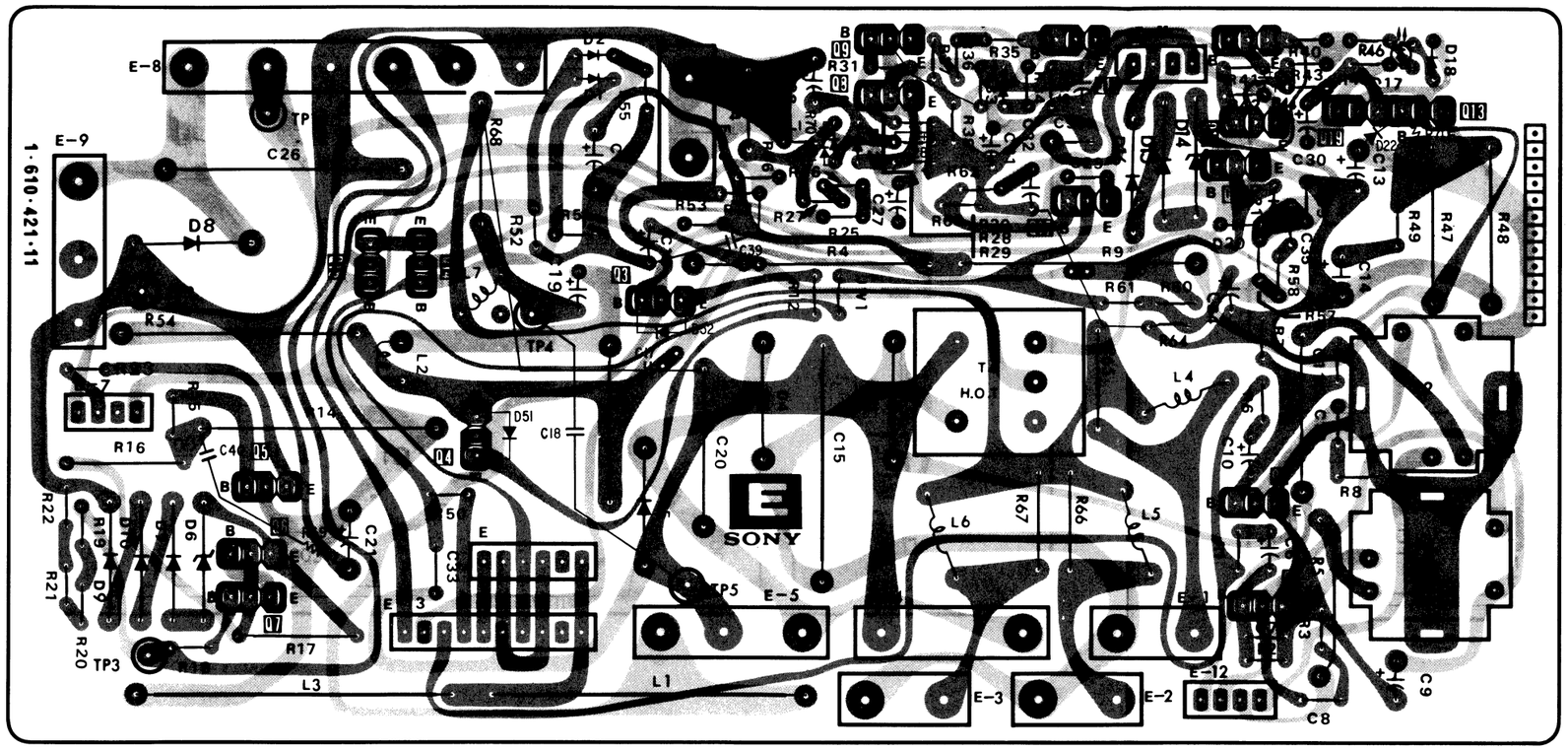
— FC Board —



— ED Board —



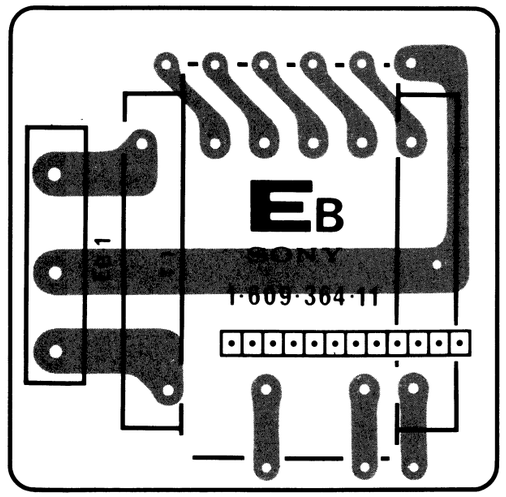
— E Board —



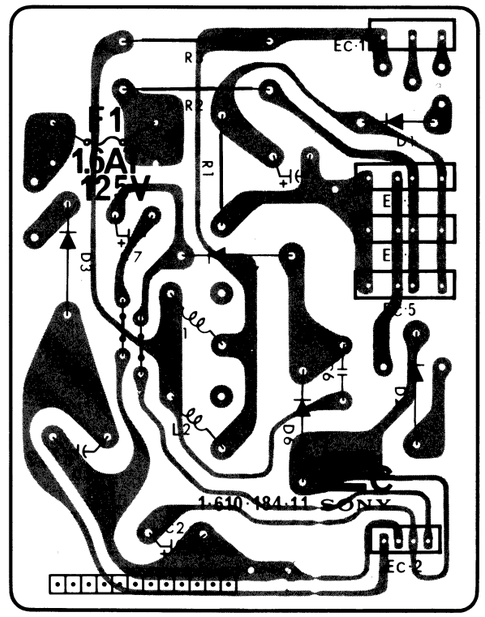
IC, Q	D	TP
9 10 11 8 19 12 13 16 17 15 14 3 4 5 2 6 7 1	17 2 18 1 11 12 22 15 14 16 21 8 52 4 3 51 5 9 10 7 6	TP1 TP2 TP4 TP5 TP3

IC, Q	D	TP

— EB Board —



— EC Board —

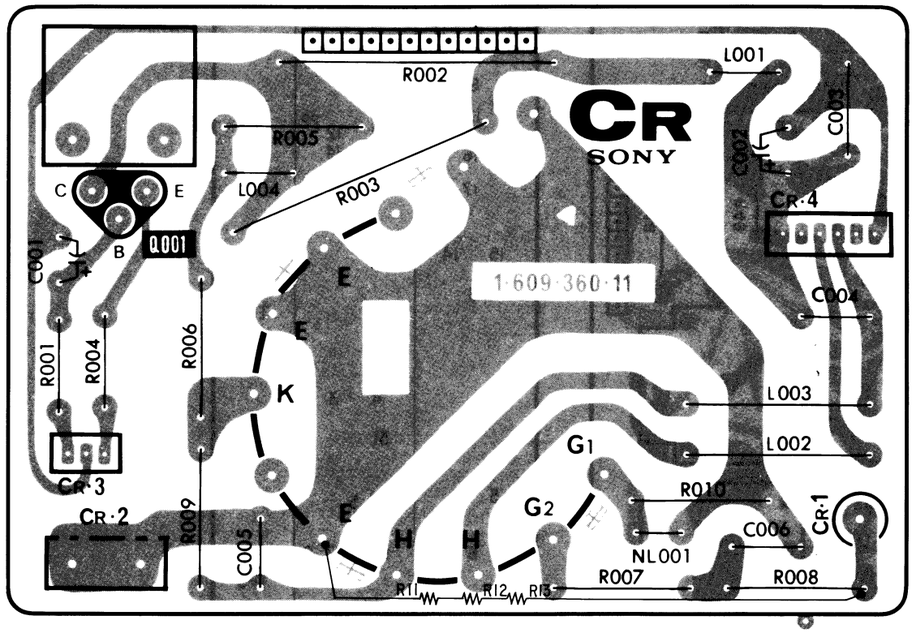


CR [RED VIDEO OUT] **CG** [GREEN VIDEO OUT] **CB** [BLUE VIDEO OUT]

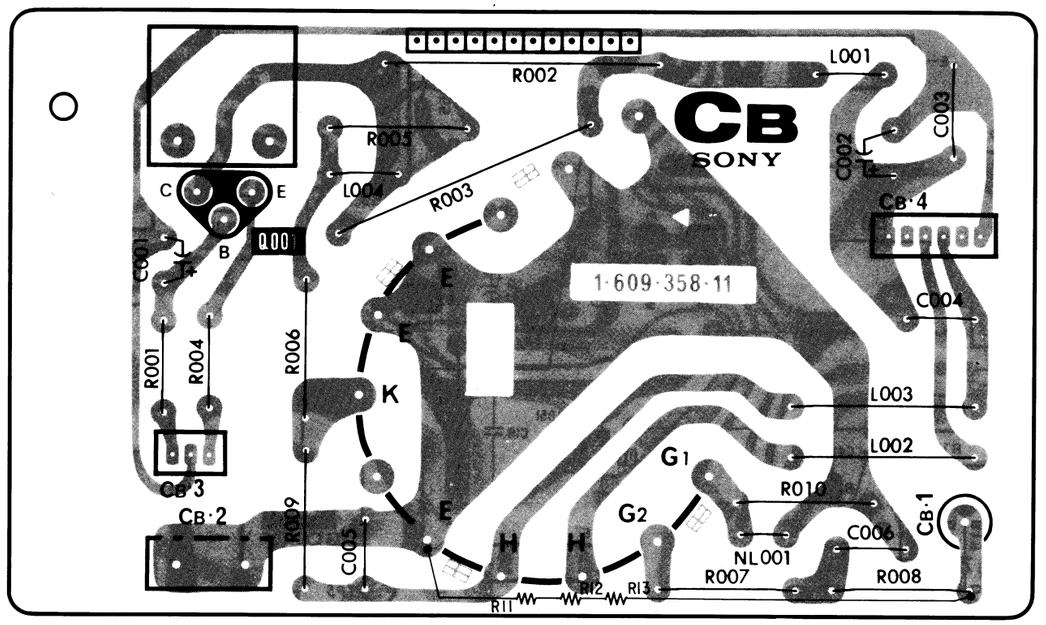
A B C D E F G H I J K L M N O

1 2 3 4 5 6 7 8 9 10

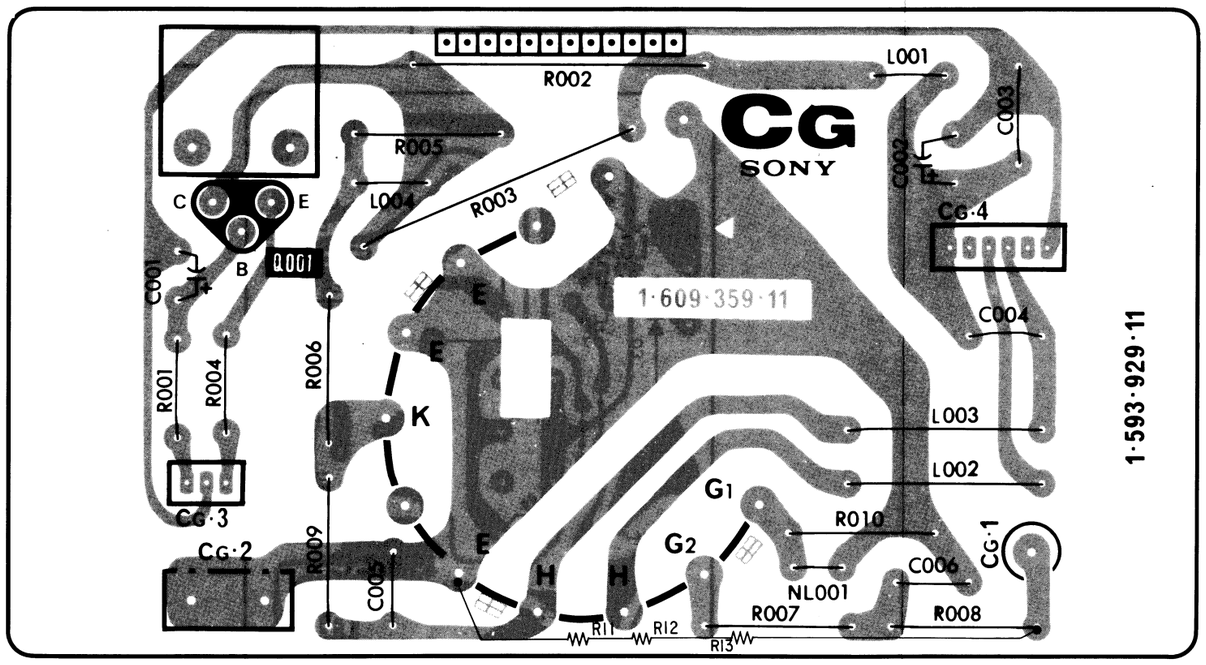
— CR Board —



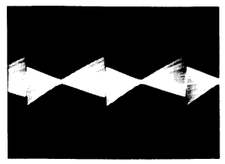
— CB Board —



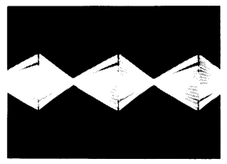
— CG Board —



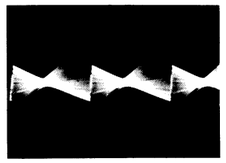
3-7. WAVEFORM



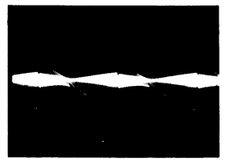
(1), (2) 0.48Vp-p (V)



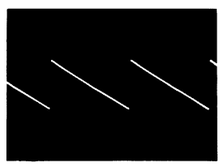
(3) 5.6Vp-p (V)



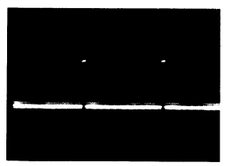
(4), (5) 0.76Vp-p (V)



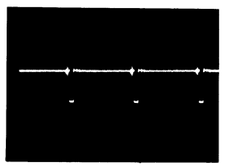
(6) 24Vp-p (V)



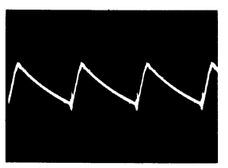
(33) 2.5Vp-p (V)



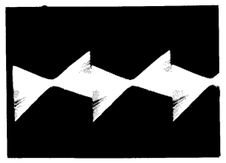
(34) 12Vp-p (V)



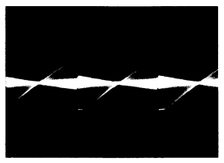
(35) 1.6Vp-p (H)



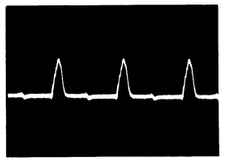
(36) 1Vp-p (H)



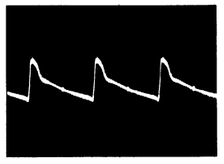
(7), (8) 0.72Vp-p (V)



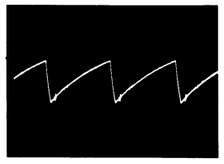
(9) 26Vp-p (V)



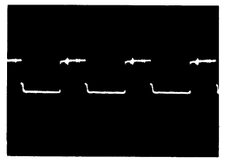
(10) 2Vp-p (H)



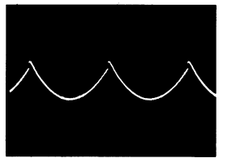
(11) 9.6Vp-p (H)



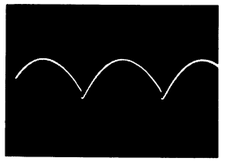
(37) 4.4Vp-p (H)



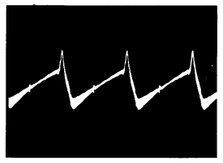
(38) 3.3Vp-p (H)



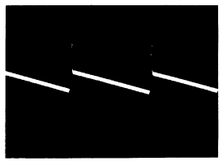
(39) 2.9Vp-p (V)



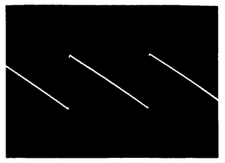
(40) 2.9Vp-p (V)



(12) 6Vp-p (H)

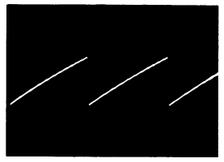


(13), (14), (15) 34Vp-p (V)

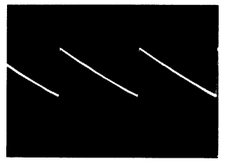


(16), (17) 1.4Vp-p (V)

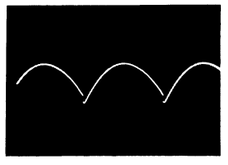
(18) 2Vp-p (V)



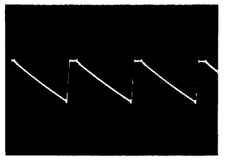
(41) 2.5Vp-p (V)



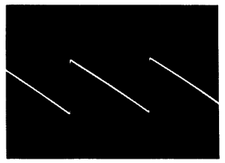
(42), 2.5Vp-p (V)



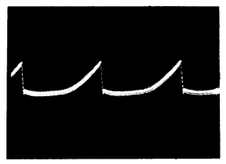
(44), (45) 2.9Vp-p (V)



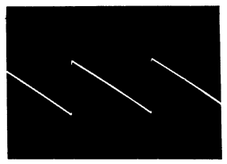
(46) 3.2Vp-p (H)



(19), (20) 1.4Vp-p (V)

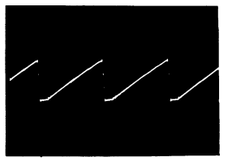


(21) 2Vp-p (V)

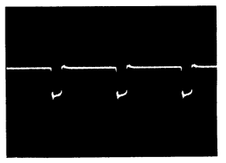


(22), (23) 1.4Vp-p (V)

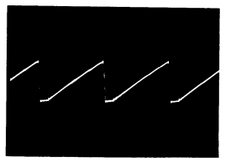
(24) 2Vp-p (V)



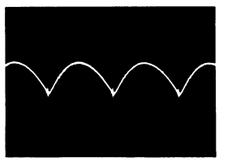
(47) 3Vp-p (H)



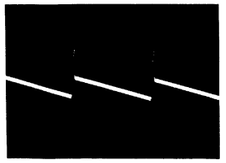
(48) 1.6Vp-p (H)



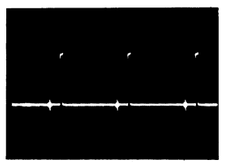
(49) 3Vp-p (H)



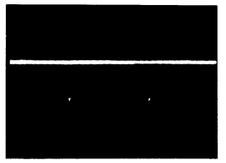
(50), (51) 3.2Vp-p (H)



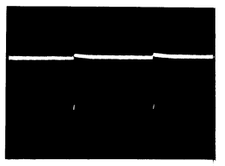
(25) 34Vp-p (V)



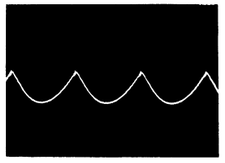
(26) 6Vp-p (H)



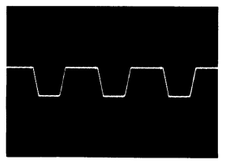
(27) 5Vp-p (V)



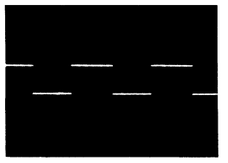
(28) 1.75Vp-p (V)



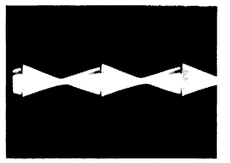
(52) 3Vp-p (H)



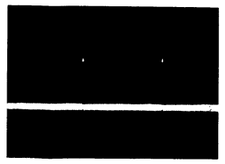
(53) 14Vp-p (H)



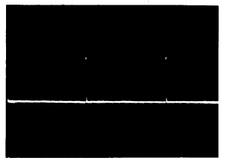
(54) 14Vp-p (V)



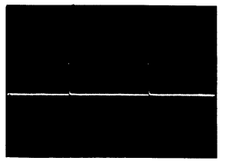
(55) 0.3Vp-p (V)



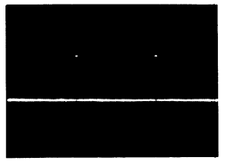
(29) 0.7Vp-p (V)



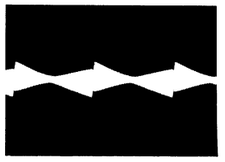
(30) 5.6Vp-p (V)



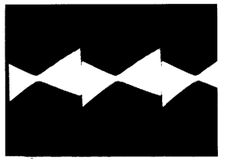
(31) 3.2Vp-p (V)



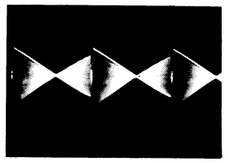
(32) 11Vp-p (V)



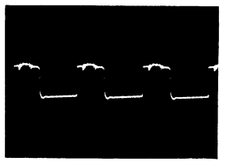
(56) 0.34Vp-p (V)



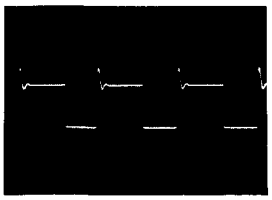
(57) 3Vp-p (H)



(58) 3.2Vp-p (V)

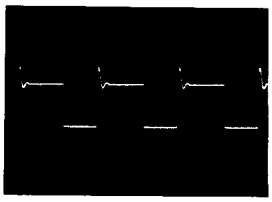


(59) 1.8Vp-p (H)

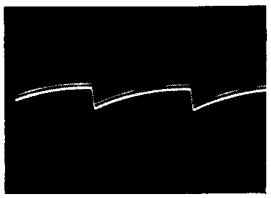


(60) 125Vp-p (H)

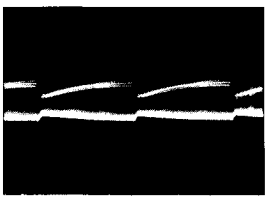
(61) 1.8Vp-p (H)



(62) 125Vp-p (H)



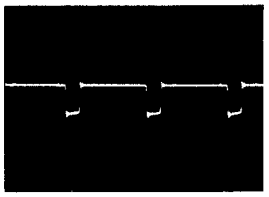
(63) 5.3Vp-p (V)



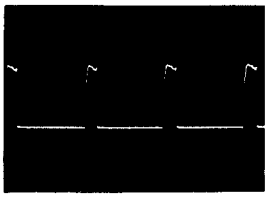
(64) 27Vp-p (V)

(65) 16Vp-p (V)

(66) 12Vp-p

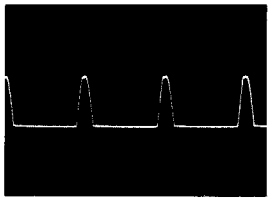


(67) 1.3Vp-p (H)



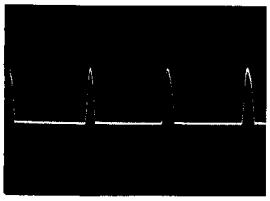
(68) 13Vp-p (H)

(69) 15Vp-p (H)

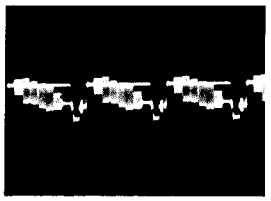


(70) 800Vp-p (H)

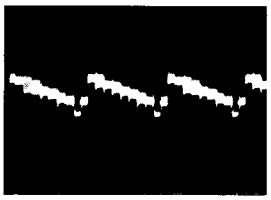
(71) 15Vp-p (H)



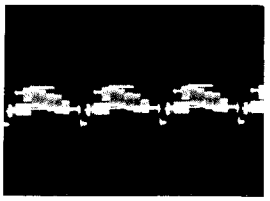
(72) 900Vp-p (H)



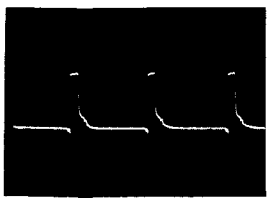
(73) 0.9Vp-p (H) PAL



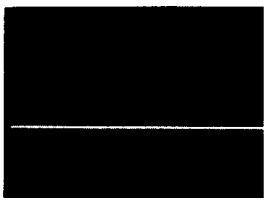
(73), (74) 0.9Vp-p (H) SECAM



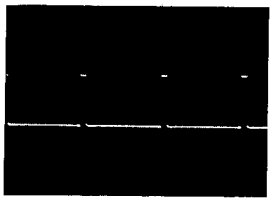
(73), (74) 0.8Vp-p (H) NTSC3.58 NTSC4.43



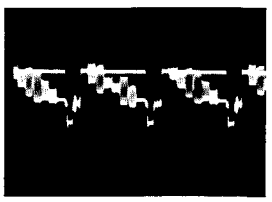
(75) 4.6Vp-p (H)



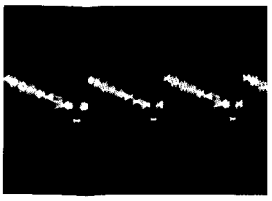
(76) 4.4Vp-p (H)



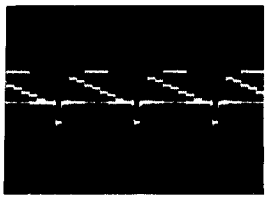
(77) 4.4Vp-p (H)



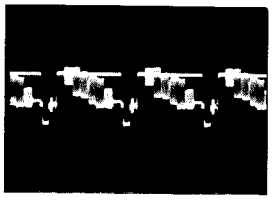
(78) 2.3Vp-p (H) PAL



(78) 2.3Vp-p (H) SECAM

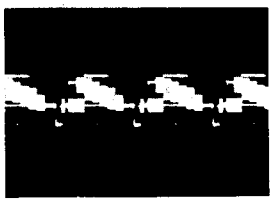


(78) 2Vp-p (H) NTSC3.58 NTSC4.43

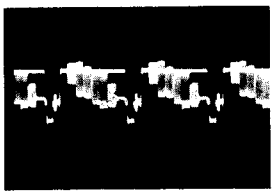


(79) 2.3Vp-p (H) PAL

(79) 2.3Vp-p (H) SECAM

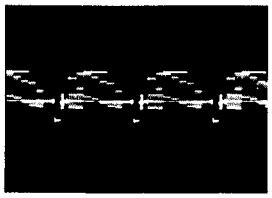


(79) 2Vp-p (H) NTSC3.58
NTSC4.43

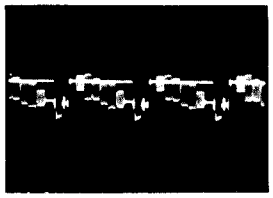


(80) 2.5Vp-p (H) PAL

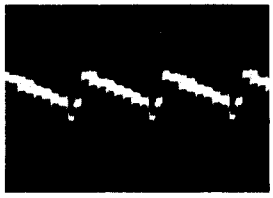
(80) 2.4Vp-p (H) SECAM



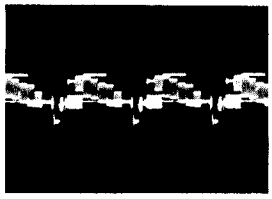
(80) 2Vp-p (H) NTSC3.58
NTSC4.43



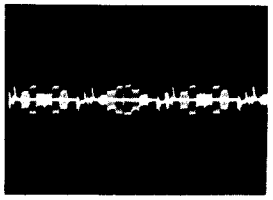
(81) 0.7Vp-p (H) PAL



(81) 0.7Vp-p (H) SECAM

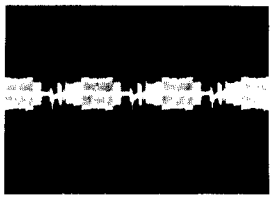


(81) 0.56Vp-p (H) NTSC3.58
0.6Vp-p (H) NTSC4.43



(82) 0.6Vp-p (H) PAL

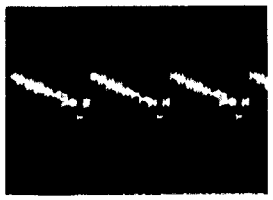
(82) 0.6Vp-p (H) SECAM



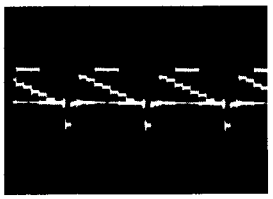
(82) 0.48Vp-p (H)
NTSC3.58

(82) 0.36Vp-p (H) NTSC4.43

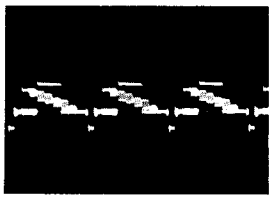
(83) 1.4Vp-p (H) PAL



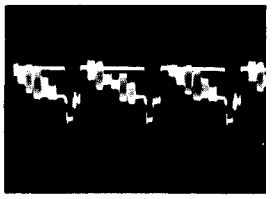
(83) 1.4Vp-p (H) SECAM



(83) 1.2Vp-p (H) NTSC3.58

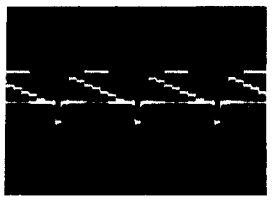


(83) 1.2Vp-p (H) NTSC4.43

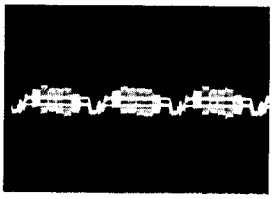


(84) 2.5Vp-p (H) PAL

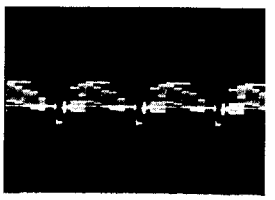
(84) 2.3Vp-p (H) SECAM



(84) 2Vp-p (H) NTSC3.58
NTSC4.43

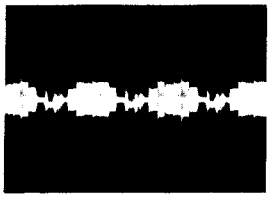


(85) 0.36Vp-p (H) PAL

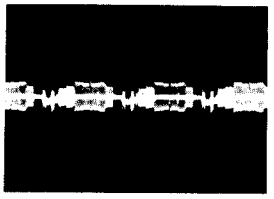


(85) 1Vp-p (H) NTSC3.58

(85) 0.24Vp-p (H) NTSC4.43



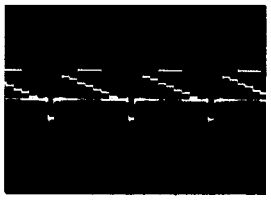
(86) 0.24Vp-p (H) PAL



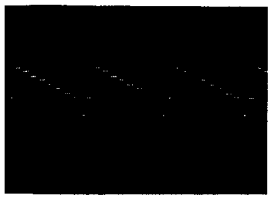
(86) 0.24Vp-p (H) NTSC3.58

(86) 0.14Vp-p (H)
NTSC4.43

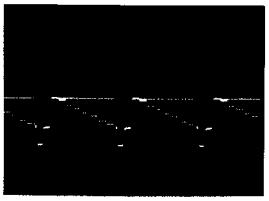
(87) 2Vp-p (H) PAL



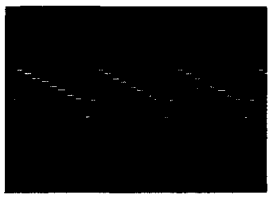
(87) 2Vp-p (H) SECAM



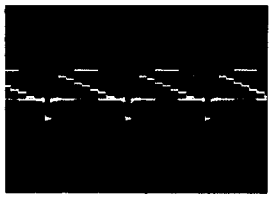
(87) 2Vp-p (H) NTSC3.58
NTSC4.43



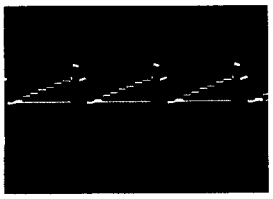
(88) 1Vp-p (H) PAL



(88) 1Vp-p (H) SECAM

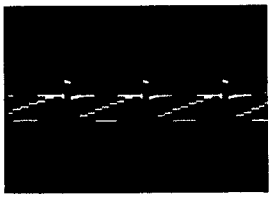


(88) 1Vp-p (H) NTSC3.58
NTSC4.43



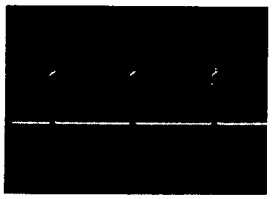
(89) 0.8Vp-p (H) PAL

(89) 0.8Vp-p (H) SECAM



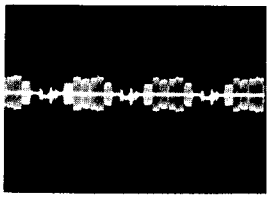
(89) 0.8Vp-p (H) NTSC3.58
NTSC4.43

(90) 2Vp-p (H)

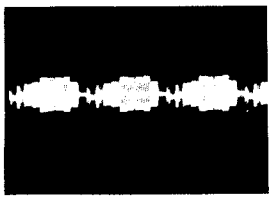


(91) 11Vp-p (H)

(92) 12Vp-p (H)

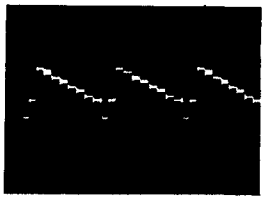


(93) 0.46Vp-p (H) PAL

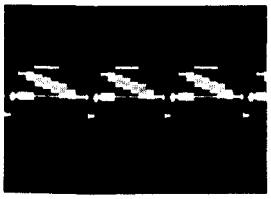


(93) 0.42Vp-p (H) NTSC3.58
0.2Vp-p (H) NTSC4.43

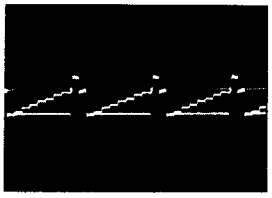
(94), (95) 2Vp-p (H) PAL



(94), (95) 2Vp-p (H)
SECAM



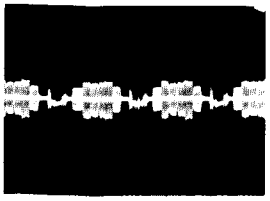
(94), (95) 2Vp-p (H)
NTSC3.58
NTSC4.43



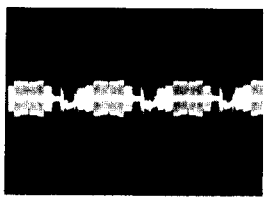
(96) 0.9Vp-p (H) PAL

(96) 0.8Vp-p (H) SECAM

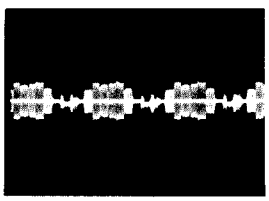
(96) 0.8Vp-p (H)
NTSC3.58
NTSC4.43



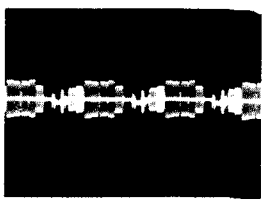
(97) 0.32Vp-p (H) PAL



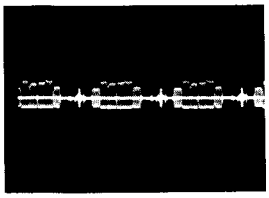
(97) 0.21Vp-p (H) NTSC3.58
0.17Vp-p (H) NTSC4.43



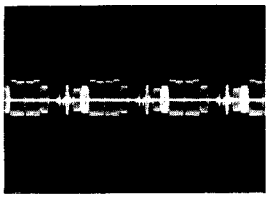
(98) 0.48Vp-p (H) PAL



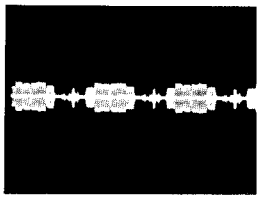
(98) 0.41Vp-p (H)
NTSC3.58
0.2Vp-p (H)
NTSC4.43



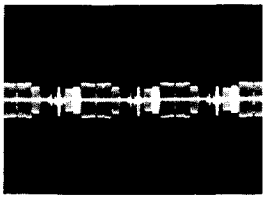
(99) 2.4Vp-p (H) PAL



(99) 1.8Vp-p (H) NTSC3.58
1.5Vp-p (H) NTSC4.43

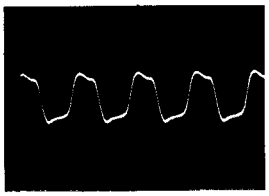


(100) 1.2Vp-p (H) PAL

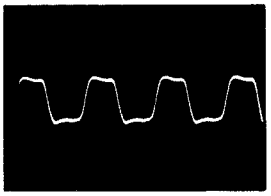


(100) 1Vp-p (H) NTSC3.58
0.8Vp-p (H)
NTSC4.43

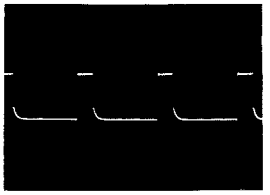
(101) 2.9Vp-p (H)



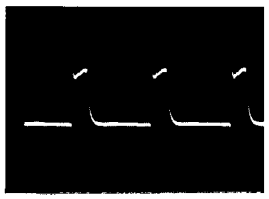
(102) 2Vp-p (4.43MHz) PAL



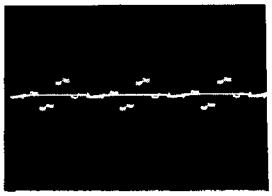
(102) 2Vp-p (3.58MHz) NTSC
NTSC3.58
2Vp-p (4.43MHz)
NTSC4.43



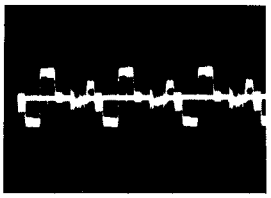
(103) 2.7Vp-p (H) PAL,
SECAM



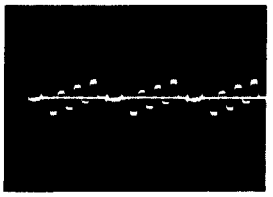
(103) 0.5Vp-p (H) NTSC3.58
NTSC4.43



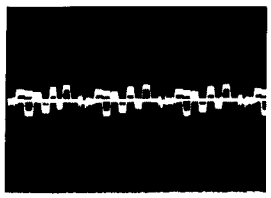
(104) 0.7Vp-p (H) PAL



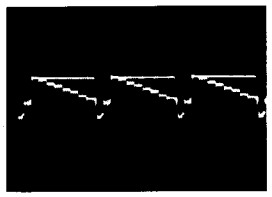
(104) 0.48Vp-p (H) NTSC3.58
0.44Vp-p (H) NTSC4.43



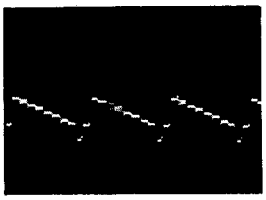
(105) 0.75Vp-p (H) PAL



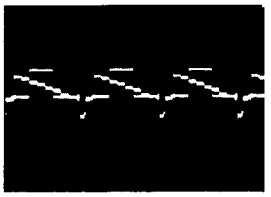
(105) 0.6Vp-p (H) NTSC3.58
0.56Vp-p (H) NTSC4.43



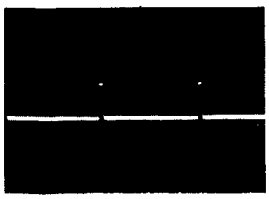
(106) 0.5Vp-p (H) PAL



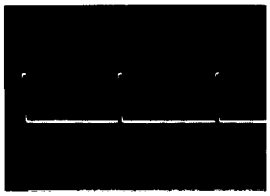
(106) 0.6Vp-p (H) SECAM



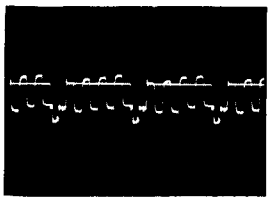
(106) 0.54Vp-p (H)
NTSC3.58
NTSC4.43



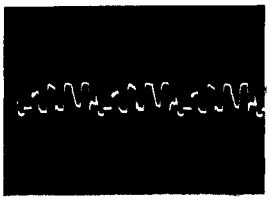
(107) 0.56Vp-p (H) PAL
NTSC3.58
NTSC4.43



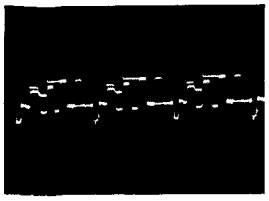
(107) 10Vp-p (H) SECAM



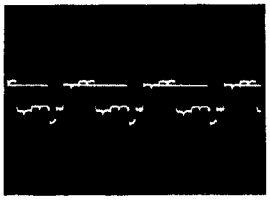
(108) 2.8Vp-p (H) PAL



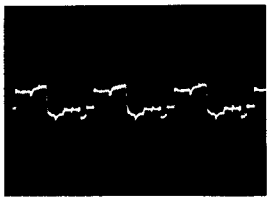
(108) 3.6Vp-p (H)
SECAM



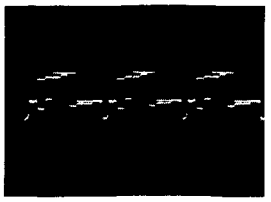
(108) 2.4Vp-p (H) NTSC3.58
NTSC4.43



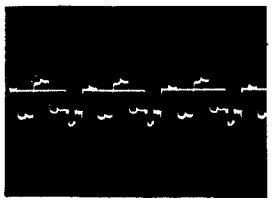
(109) 2.6Vp-p (H) PAL



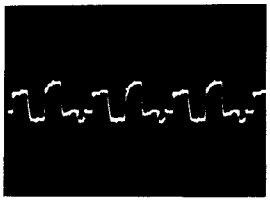
(109) 3Vp-p (H) SECAM



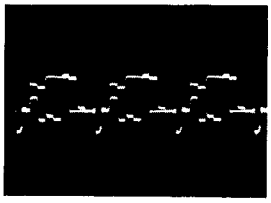
(109) 2.4Vp-p (H)
NTSC3.58
NTSC4.43



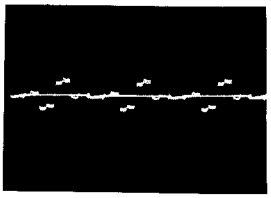
(110) 2.8Vp-p (H) PAL



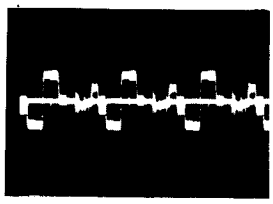
(110) 3.2Vp-p (H) SECAM



(110) 2.4Vp-p (H) NTSC3.58
NTSC4.43

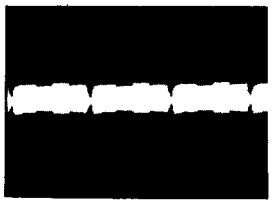


(111) 0.7Vp-p (H) PAL

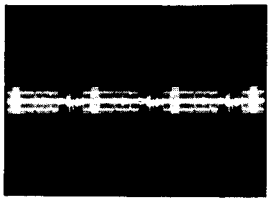


(111) 0.44Vp-p (H) NTSC3.58
0.4Vp-p (H) NTSC4.43

(112) 0.6Vp-p (H) PAL



(112) 0.6Vp-p (H) SECAM

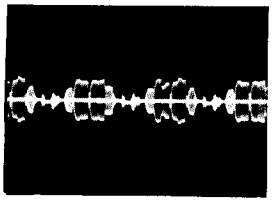


(112) 0.6Vp-p (H) NTSC3.58
NTSC4.43

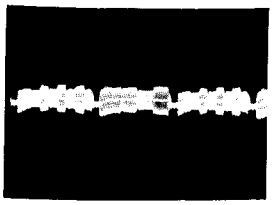
(113) 0.18Vp-p (H) PAL

(113) 0.2Vp-p (H)SECAM

(113) 0.2Vp-p (H) NTSC3.58
NTSC4.43

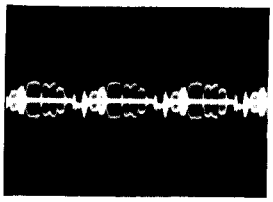


(114) 0.9Vp-p (H) PAL



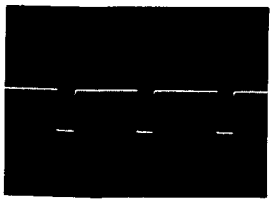
(114) 0.28Vp-p (H) SECAM

(114) 0.2Vp-p (H) NTSC3.58



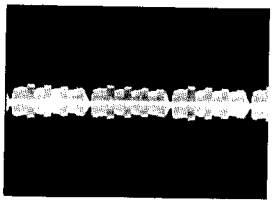
(114) 0.32Vp-p (H) NTSC4.43

(115) 2.8Vp-p (H) PAL
2.6Vp-p (H) SECAM
2.2Vp-p (H) NTSC3.58
NTSC4.43

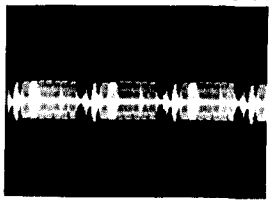


(116) 9Vp-p (H) PAL
8Vp-p (H) SECAM
NTSC3.58
NTSC4.43

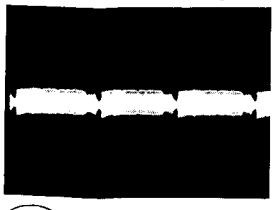
(116-a) 0.6Vp-p (H) PAL



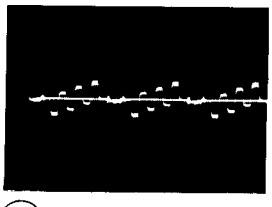
(116-a) 0.8Vp-p (H) SECAM



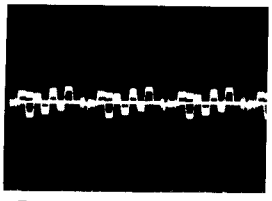
(116-a) 0.8Vp-p (H)
NTSC3.58



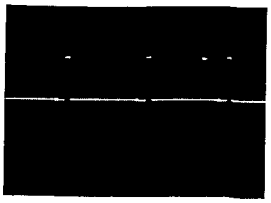
(116-a) 0.6Vp-p (H) NTSC4.43



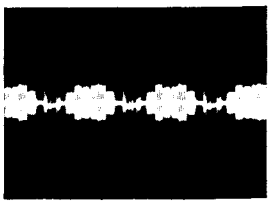
(117) 0.75Vp-p (H) PAL



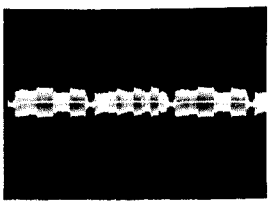
(117) 0.6Vp-p (H) NTSC3.58
0.5Vp-p (H) NTSC4.43



(118) 2.6Vp-p (H)

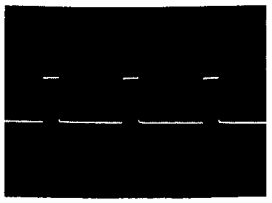


(119) 0.4Vp-p (H) PAL

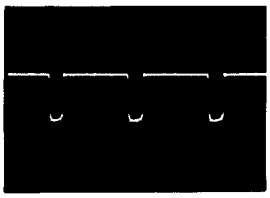


(119) 0.5Vp-p (H) SECAM

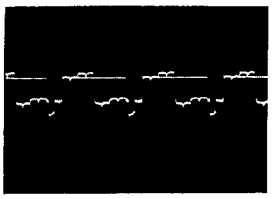
(119) 0.2Vp-p (H) NTSC3.58
NTSC4.43



(120) 11Vp-p (H)

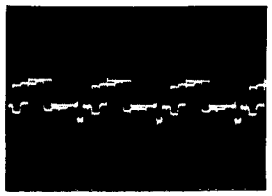


(121) 1.3Vp-p (H)

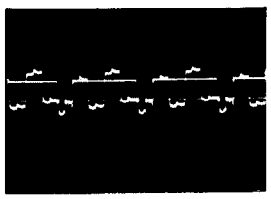


(122) 2.5Vp-p (H) PAL

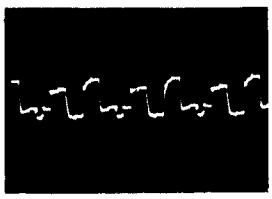
(122) 2.5Vp-p (H) SECAM



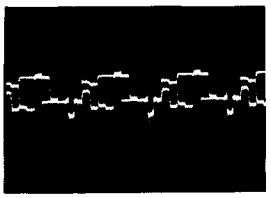
(122) 2.2Vp-p (H) NTSC3.58
2.4Vp-p (H) NTSC4.43



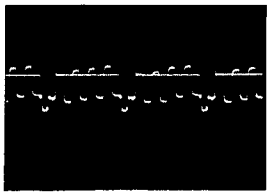
(123) 2.8Vp-p (H) PAL



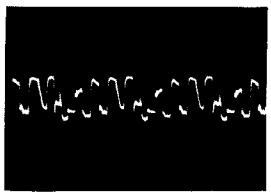
(123) 3Vp-p (H) SECAM



(123) 2.2Vp-p (H) NTSC3.58
2.3Vp-p (H) NTSC4.43



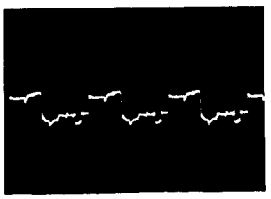
(124) 2.6Vp-p (H) PAL



(124) 3.4Vp-p (H) SECAM

(124) 2.2Vp-p (H) NTSC3.58
2.4Vp-p (H) NTSC4.43

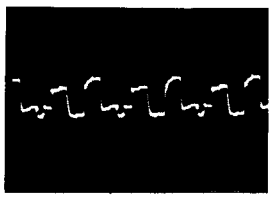
(125) 2.5Vp-p (H) PAL



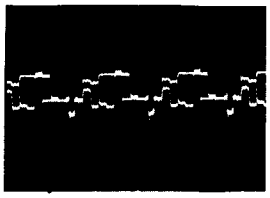
(125) 2.5Vp-p (H) SECAM

(125) 2.2Vp-p (H) NTSC3.58
2.4Vp-p (H) NTSC4.43

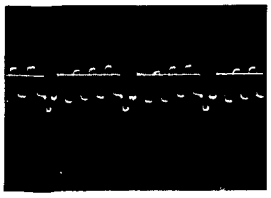
(126) 2.8Vp-p (H) PAL



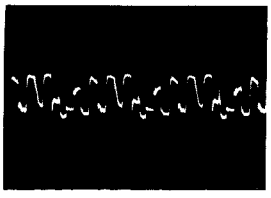
(126) 3Vp-p (H) SECAM



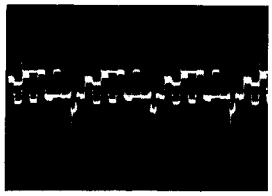
(126) 2.2Vp-p (H) NTSC3.58
2.3Vp-p (H) NTSC4.43



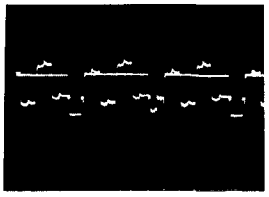
(127) 2.6Vp-p (H) PAL



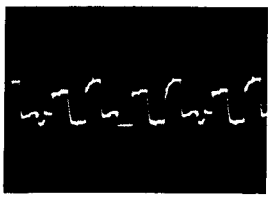
(127) 3.4Vp-p (H) SECAM



(127) 2.2Vp-p (H) NTSC3.58
2.4Vp-p (H) NTSC4.43

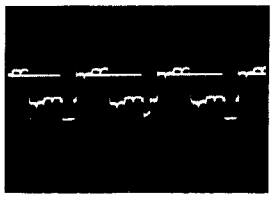


(128) 3.4Vp-p (H) PAL

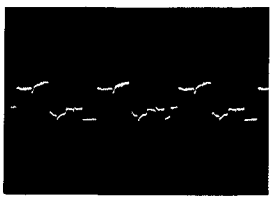


(128) 3.8Vp-p (H) SECAM

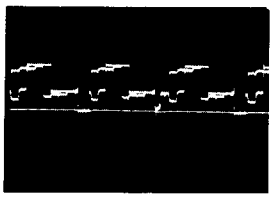
(128) 2.7Vp-p (H) NTSC3.58
NTSC4.43



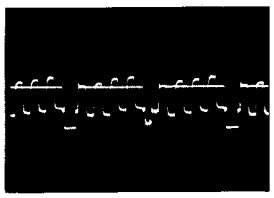
(129) 3Vp-p (H) PAL



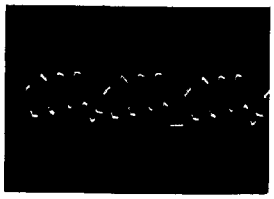
(129) 3Vp-p (H) SECAM



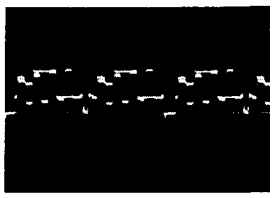
(129) 2.6Vp-p (H) NTSC3.58
NTSC4.43



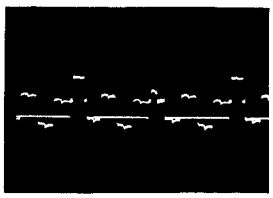
(130) 3.2Vp-p (H) PAL



(130) 4.4Vp-p (H) SECAM

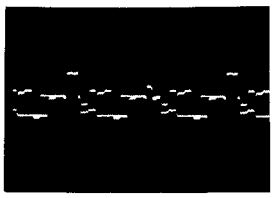


(130) 2.5Vp-p (H) NTSC3.58
NTSC4.43

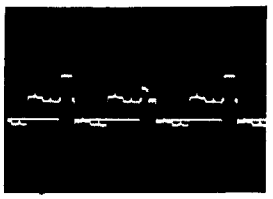


(131) 3.2Vp-p (H) PAL

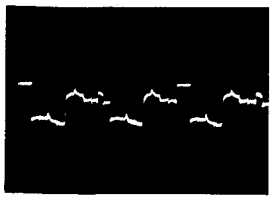
(131) 3.4Vp-p (H) SECAM



(131) 2.6Vp-p (H) NTSC3.58
NTSC4.43

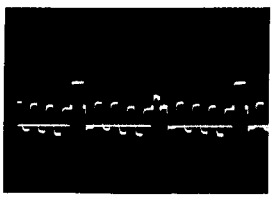


(132) 3.4Vp-p (H) PAL

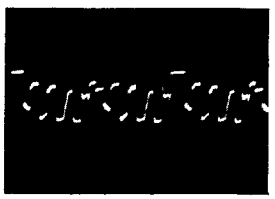


(132) 3.4Vp-p (H) SECAM

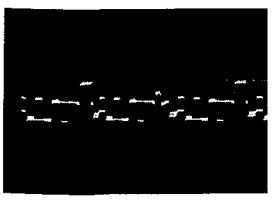
(132) 2.9Vp-p (H) NTSC3.58
NTSC4.43



(133) 3.3Vp-p (H) PAL

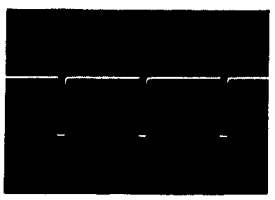


(133) 4Vp-p (H) SECAM

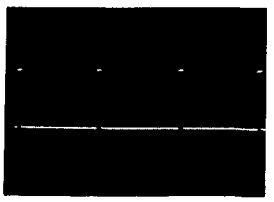


(133) 2.8Vp-p (H) NTSC3.58
NTSC4.43

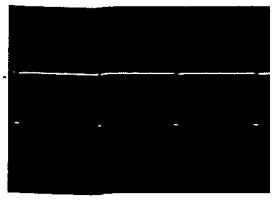
(134) 1.4Vp-p (H)



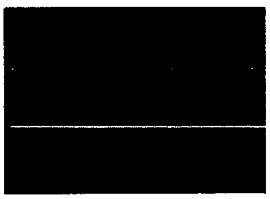
(135) 12Vp-p (H)



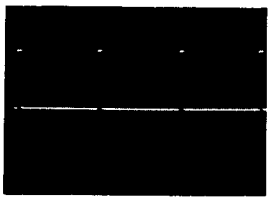
(136) 12Vp-p (H)



(137) 12Vp-p (H)

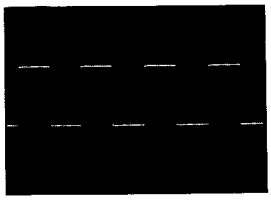


(138) 12Vp-p (H)

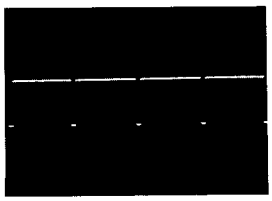


(139) 12Vp-p (H)

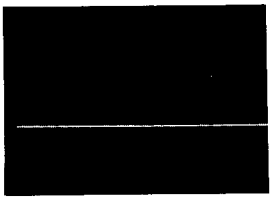
(140) 13Vp-p (H)



(141) 12Vp-p (1/2H)

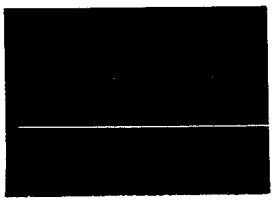


(142) 12Vp-p (H)

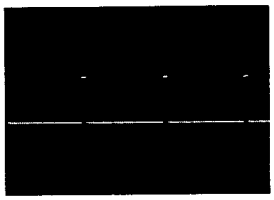


(143) 10Vp-p (V)

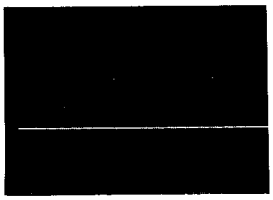
(144), (145) 12Vp-p (V)



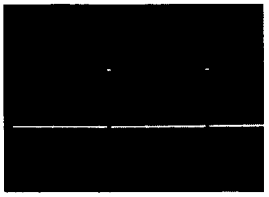
(146) 11Vp-p (V)



(147) 12Vp-p (V)

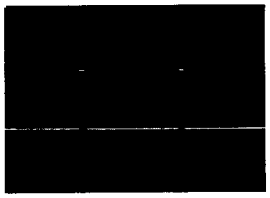


(148) 9.5Vp-p (V)

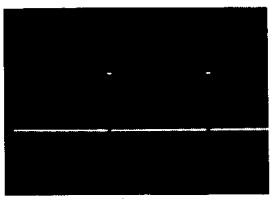


(149) 12Vp-p (V)

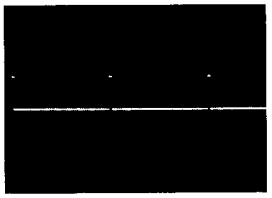
(150) 12Vp-p (V)



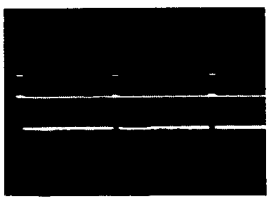
(151) 12Vp-p (V)



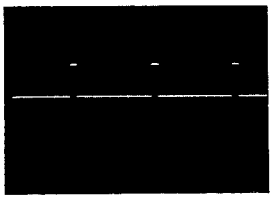
(152) 12Vp-p (V)



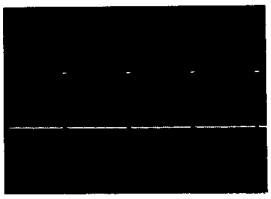
(153) 4.4Vp-p (V) PAL



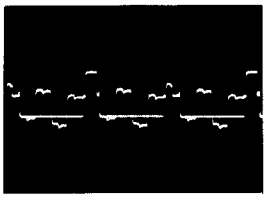
(153) 4.4Vp-p (V) SECAM



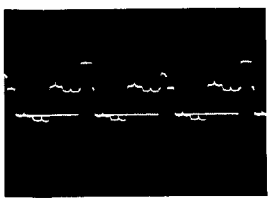
(153) 4.4Vp-p(V) NTSC3.58



(154) 11Vp-p (1/2H)

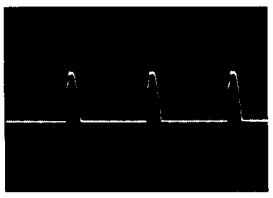


(155) 115Vp-p (H) PAL

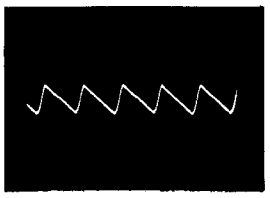


(156) 120Vp-p (H) PAL

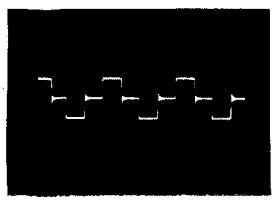
(157) 120Vp-p (H)



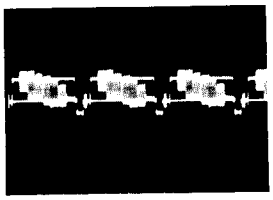
(158), (159), (160) 20Vp-p (H)



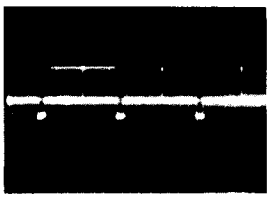
(161) 8Vp-p (10m Sec)



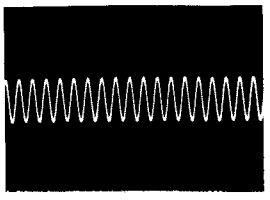
(162) 300Vp-p (38 μ Sec)



(163), (164) 0.9Vp-p (H) PAL



(165) 1Vp-p (H)



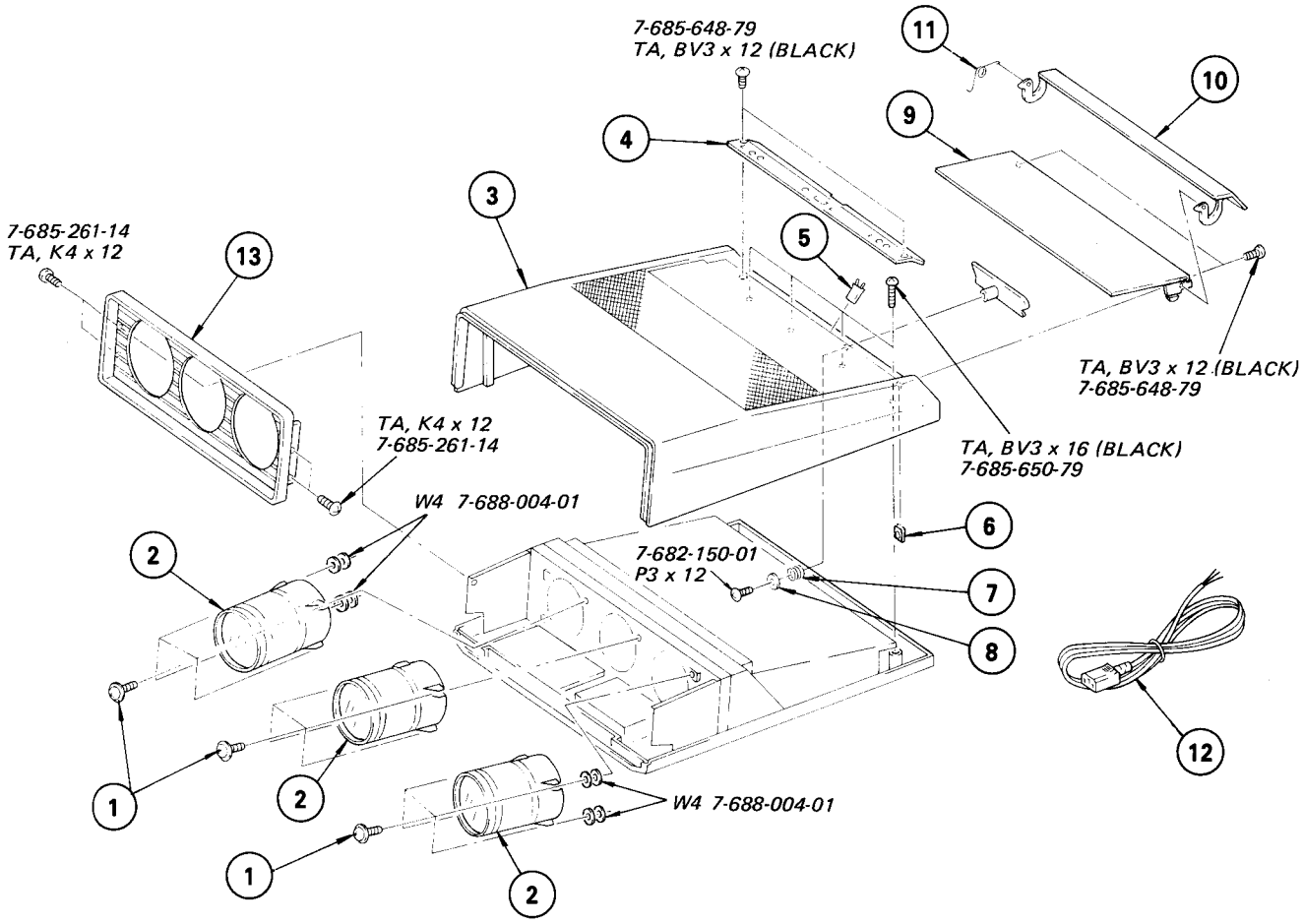
(166) TEST 6.2Vp-p (3.58 MHz)

SECTION 4
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

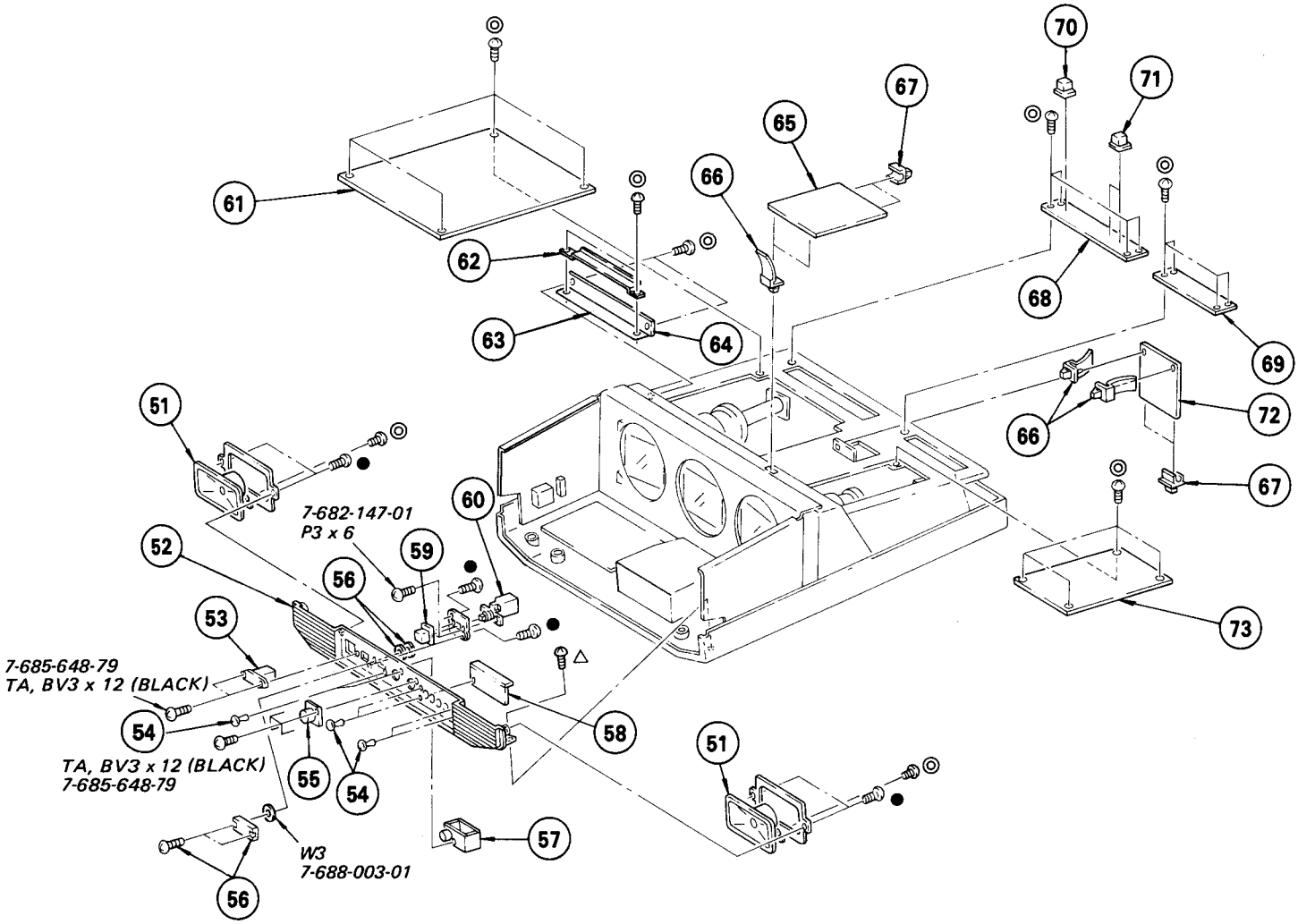
(1) LENS



No.	Part No.	Description	Remark
1	4-302-934-00	HEAD, WASHER, TAPPING SCREW	
2	4-362-801-00	LENS, DELTA 2-D	
3	X-4362-807-0	HOOD ASSY	5,6,7,8
4	X-4362-803-0	PLATE ASSY, INNER	
5	4-352-034-00	CATCHER, PUSH	
6	4-303-407-00	NUT, SPECIAL PLATE	
7	♦ :3-480-044-00	SPRING, COMPRESSION	
8	4-812-554-00	WASHER	
9	4-362-814-00	PLATE, TOP	
10	X-4362-805-0	DOOR ASSY	
11	4-333-719-21	SPRING (B)	
12	⚠.1-551-258-11	CORD, POWER	
13	4-362-824-00	PANEL, LENS	

(2) PANEL ASSY

◎ : TA, BV3 x 6 7-685-645-71
● : TA, BV3 x 12 7-685-648-71
△ : TA, BV4 x 8 7-685-659-14

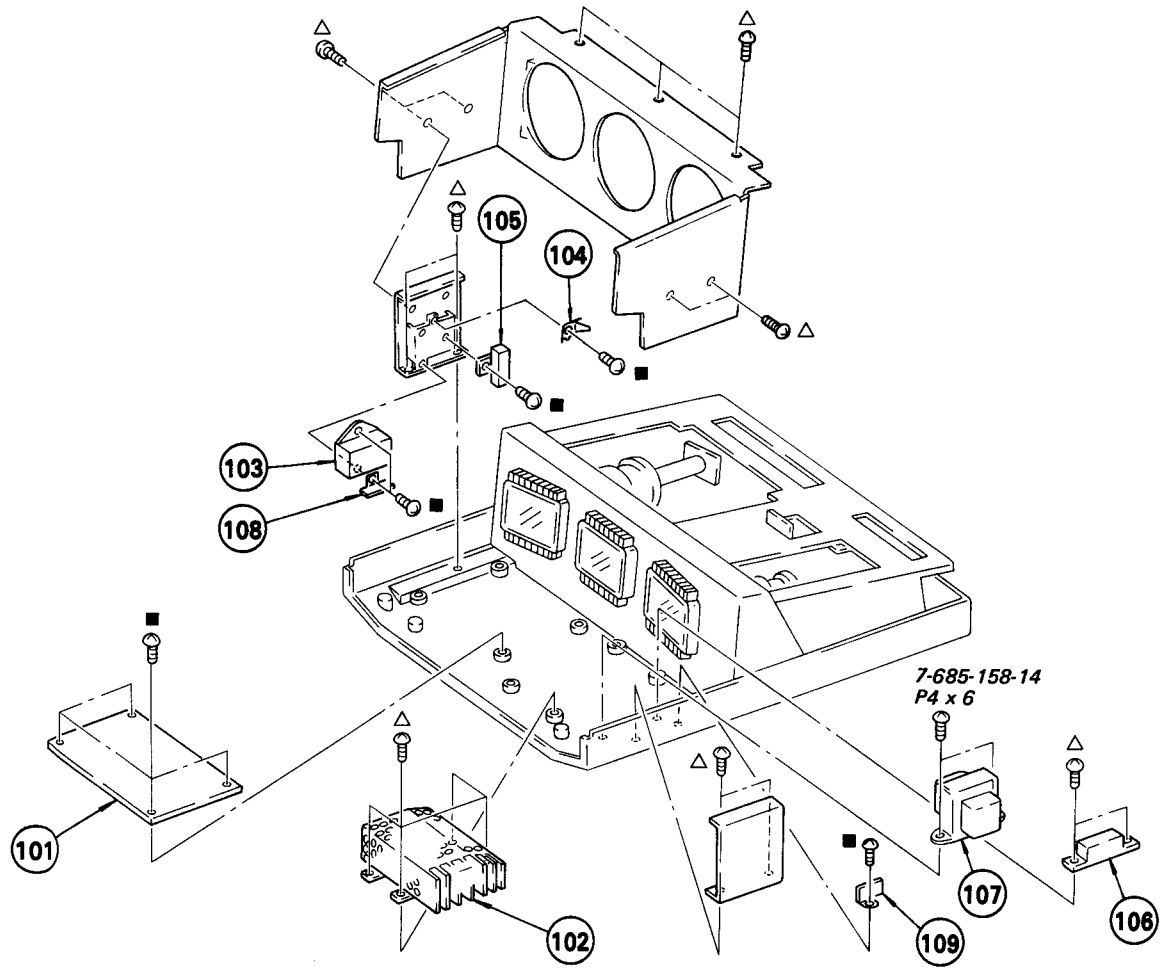


No.	Part No.	Description	Remark
51	1-503-255-00	SPEAKER	
52	X-4362-806-0	PANEL ASSY, CONNECTOR	
53 ⚠	1-509-547-00	3P INLET, AC IN	
54	3-531-576-31	RIVET (DIA. 3), NYLON	
55	1-556-937-00	CONNECTOR ASSY, MULTI	
56	1-509-095-00	8P MULTI SOCKET	
57 ♦	1-610-419-00	FB BOARD	
58 ♦	1-610-420-00	FC BOARD	
59	4-362-811-00	BUTTON, MAIN POWER	
60 ⚠	1-553-330-21	SWITCH, PUSH (POWER)	
61 ♦	A-1340-560-A	D BOARD, COMPLETE	
62 ♦	4-362-828-00	RETAINER (A), TRANSFOMER	
63	4-362-829-00	SPACER (A), MICA	
64 ♦	1-610-154-00	DB BOARD	
65 ♦	1-610-184-00	EC BOARD	
66 ♦	3-703-141-00	HOLDER, PCB	
67 ♦	3-703-072-00	HOLDER, PCB	
68 ♦	1-609-357-00	HA BOARD	
69 ♦	1-609-356-00	HB BOARD	
70	4-362-808-00	BUTTON, POWER	
71	4-362-809-00	BUTTON, SELECT	
72 ♦	1-609-364-00	EB BOARD	
73 ♦	A-1340-514-A	E BOARD, COMPLETE	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(3) F BOARD

■ : TA, BV3 x 8 7-685-646-71
△ : TA, BV4 x 8 7-685-659-14

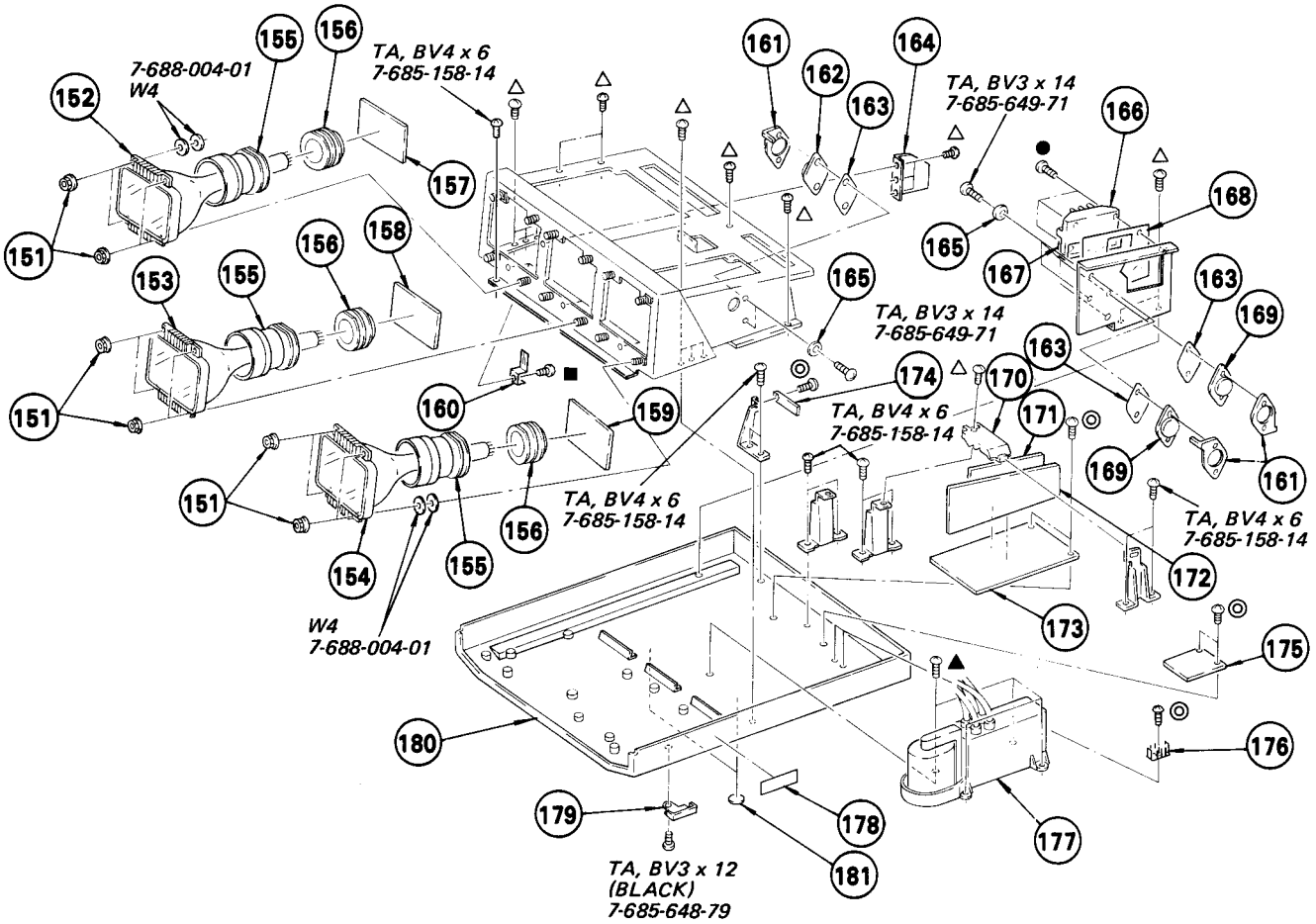


No.	Part No.	Description	Remark
101	♦:A-1240-422-A	F BOARD, COMPLETE	
102	⚠.1-413-152-00	SWITCHING REGULATOR (TK-03)	
103	⚠.1-235-225-00	FILTER, NOISE(L.F.T)	
104	♦:4-303-793-00	TERMINAL, GROUND	
105	⚠.1-217-183-00	RES, WIREWOUD 2.7	
106	⚠.1-552-535-00	SWITCH, POWER VOLTAGE CHANGE	
107	⚠.1-447-612-00	TRANSFORMER, POWER	
108	1-536-378-XX	L-TYPE TERMINAL STRIP	
109	1-536-401-XX	L-TYPE TERMINAL STRIP	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(4) BASE ASSY

◎ : TA, BV3 x 6 7-685-645-71
■ : TA, BV3 x 8 7-685-646-71
● : TA, BV3 x 12 7-685-648-71
△ : TA, BV4 x 8 7-685-659-14
▲ : TA, BV4 x 12 7-685-661-14



No.	Part No.	Description	Remark
151	4-304-749-00	NUT, FLANGE	
152 ⚠	.8-736-053-05	CRT SD-130(R)	
153 ⚠	.8-736-051-05	CRT SD-130(G)	
154 ⚠	.8-736-052-05	CRT SD-130(B)	
155 ⚠	.1-451-243-11	DEFLECTION YOKE (SY-130A)	
156 ⚠	.1-452-302-00	CRT NECK ASSEMBLY	
157 ♦	:A-1330-408-A	CR BOARD, COMPLETE	
158 ♦	:A-1330-409-A	CG BOARD, COMPLETE	
159 ♦	:A-1330-410-A	CB BOARD, COMPLETE	
160	4-332-209-00	SPRING	
161 ♦	:4-314-938-01	RETAINER (TO-3), TRANSISTOR	
162	8-729-301-62	TRANSISTOR 2SC1116A	
163	3-701-353-00	SPACER, MICA	
164 ♦	:4-362-849-00	INSULATOR	
165	3-701-453-00	BUSHING (L), TR	
166 ⚠	.1-230-089-21	RESISTOR ASSY, HIGH-VOLTAGE(FOCUS BLOCK)	

No.	Part No.	Description	Remark
167 ♦	:4-362-848-00	SPACER (B)	
168 ♦	:4-362-830-00	SPACER	
169	8-729-301-32	TRANSISTOR 2SC1413A	
170 ♦	:4-362-846-00	HOLDER, B PC BOARD	
171 ♦	:A-1130-224-A	BB BOARD, COMPLETE	
172 ♦	:A-1135-201-A	BA BOARD, COMPLETE	
173 ♦	:1-609-362-00	BC BOARD	
174 ♦	:1-610-153-00	HC BOARD	
175 ♦	:1-610-155-00	ED BOARD	
176 ♦	:4-309-624-00	TERMINAL, EARTH	
177 ⚠	.1-453-095-00	DC BLOCK, HIGH-VOLTAGE (FBT)	
178 ♦	:4-362-857-00	LABEL, MODEL NUMBER (VPH-1020QM ONLY)	
	4-362-856-00	LABEL, MODEL NUMBER (VPH-722QM ONLY)	
179 ♦	:4-362-810-00	COVER	
180	X-4362-808-0	BASE ASSY	179,181
181	2-205-702-01	SPACER	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

• Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

There are overlapping about reference numbers on each circuit board. So when indicating parts by reference number, please include the board name.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
• MF : μF, PF : μμF

RESISTORS
• All resistors are in ohms
• F : nonflammable

COILS
• MMH : mH, UH : μH

Ref.No.	Part No.	Description				Remark
	♦:1-609-362-00	BC BOARD				
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		CONNECTOR				
BC1	♦:1-560-470-00	PIN, CONNECTOR 8P				
BC2	♦:1-560-468-00	PIN, CONNECTOR 5P				
BC3	♦:1-560-470-00	PIN, CONNECTOR 8P				
BC4	♦:1-560-471-00	PIN, CONNECTOR 10P				
BC5	♦:1-560-470-00	PIN, CONNECTOR 8P				
BC6	♦:1-560-466-00	PIN, CONNECTOR 3P				
BC7	♦:1-560-466-00	PIN, CONNECTOR 3P				
BC8	♦:1-560-466-00	PIN, CONNECTOR 3P				
BC9	♦:1-560-469-00	PIN, CONNECTOR 6P				
BC10	♦:1-560-471-00	PIN, CONNECTOR 10P				
BC11	♦:1-560-456-00	PIN, CONNECTOR 2P				
BC12	♦:1-561-797-00	SOCKET, MULTI CONNECTOR 15P				
BC13	♦:1-561-337-00	CONNECTOR, MULTI				
		CAPACITOR				
C1	1-123-610-00	ELECT	0.47MF	20%	50V	
C2	1-123-820-00	ELECT	33MF	20%	16V	
C3	1-123-820-00	ELECT	33MF	20%	16V	
C4	1-123-381-00	ELECT	2.2MF	20%	50V	
		DIODE				
D1	8-719-100-71	DIODE RD15E-B2				
		IC				
IC1	8-759-240-53	IC TC4053BP				
IC2	8-759-240-53	IC TC4053BP				
IC3	8-759-240-53	IC TC4053BP				
IC4	8-759-170-12	IC UPC78M12H				
IC5	8-759-170-12	IC UPC78M12H				
		TRANSISTOR				
Q1	8-729-245-83	TRANSISTOR 2SC2458				
		RESISTOR				
R1	1-247-807-00	CARBON	100	5%	1/6W	
R2	1-247-807-00	CARBON	100	5%	1/6W	
R3	1-247-807-00	CARBON	100	5%	1/6W	
R4	1-247-807-00	CARBON	100	5%	1/6W	
R5	1-247-807-00	CARBON	100	5%	1/6W	
R6	1-247-807-00	CARBON	100	5%	1/6W	
R7	1-247-807-00	CARBON	100	5%	1/6W	
R8	1-247-807-00	CARBON	100	5%	1/6W	
R9	1-246-449-31	CARBON	100	1%	1/4W	
R10	1-247-807-00	CARBON	100	5%	1/6W	
R11	1-247-807-00	CARBON	100	5%	1/6W	
R12	1-247-807-00	CARBON	100	5%	1/6W	
R13	1-247-807-00	CARBON	100	5%	1/6W	
R14	1-247-807-00	CARBON	100	5%	1/6W	
R15	1-247-807-00	CARBON	100	5%	1/6W	
R16	1-247-855-00	CARBON	10K	5%	1/6W	
R17	1-247-807-00	CARBON	100	5%	1/6W	
R18	1-247-807-00	CARBON	100	5%	1/6W	
R19	1-247-807-00	CARBON	100	5%	1/6W	
R20	1-247-807-00	CARBON	100	5%	1/6W	
R21	1-247-807-00	CARBON	100	5%	1/6W	
R22	1-247-807-00	CARBON	100	5%	1/6W	
R23	1-247-807-00	CARBON	100	5%	1/6W	
R24	1-247-807-00	CARBON	100	5%	1/6W	
R25	1-247-807-00	CARBON	100	5%	1/6W	
R26	1-247-807-00	CARBON	100	5%	1/6W	
R27	1-247-807-00	CARBON	100	5%	1/6W	
R28	1-247-807-00	CARBON	100	5%	1/6W	
R29	1-246-481-00	CARBON	2.2K	5%	1/4W	
R30	1-247-839-00	CARBON	2.2K	5%	1/6W	
R31	1-247-835-00	CARBON	1.5K	5%	1/6W	
R32	1-246-482-00	CARBON	2.4K	5%	1/4W	
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	♦:A-1130-224-A	BB BOARD, COMPLETE				
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		CAPACITOR				
C1	1-123-617-00	ELECT	10MF	20%	16V	
C2	1-123-820-00	ELECT	33MF	20%	16V	
C3	1-123-617-00	ELECT	10MF	20%	16V	
C4	1-123-820-00	ELECT	33MF	20%	16V	
C5	1-123-617-00	ELECT	10MF	20%	16V	
C6	1-123-820-00	ELECT	33MF	20%	16V	
C7	1-123-820-00	ELECT	33MF	20%	16V	
C8	1-123-820-00	ELECT	33MF	20%	16V	
C9	1-123-820-00	ELECT	33MF	20%	16V	
C10	1-123-820-00	ELECT	33MF	20%	16V	
C11	1-123-820-00	ELECT	33MF	20%	16V	
C12	1-123-820-00	ELECT	33MF	20%	16V	
C13	1-102-820-00	CERAMIC	330PF	5%	50V	
C14	1-102-824-00	CERAMIC	470PF	5%	50V	
C15	1-102-824-00	CERAMIC	470PF	5%	50V	
C16	1-123-617-00	ELECT	10MF	20%	16V	
C17	1-123-333-00	ELECT	100MF	20%	16V	
C18	1-101-006-00	CERAMIC	0.047MF		50V	
C19	1-102-529-00	CERAMIC	100PF	5%	50V	
C20	1-102-529-00	CERAMIC	100PF	5%	50V	
C22	1-102-529-00	CERAMIC	100PF	5%	50V	
C23	1-102-529-00	CERAMIC	100PF	5%	50V	
C24	1-102-523-00	CERAMIC	56PF	5%	50V	
C25	1-108-579-00	MYLAR	0.01MF	5%	50V	
C26	1-102-525-00	CERAMIC	68PF	5%	50V	
C27	1-102-518-00	CERAMIC	33PF	5%	50V	
C28	1-102-529-00	CERAMIC	100PF	5%	50V	
C29	1-102-531-00	CERAMIC	150PF	5%	50V	
C30	1-108-595-00	MYLAR	0.047MF	5%	50V	
C31	1-108-595-00	MYLAR	0.047MF	5%	50V	

BB

Ref.No.	Part No.	Description			Remark
C32	1-108-579-00	MYLAR	0.01MF	5%	50V
C33	1-108-579-00	MYLAR	0.01MF	5%	50V
C34	1-101-003-00	CERAMIC	0.0047MF		50V
C35	1-102-529-00	CERAMIC	100PF	5%	50V
C36	1-102-529-00	CERAMIC	100PF	5%	50V
C37	1-123-617-00	ELECT	10MF	20%	16V
C44	1-123-352-00	ELECT	1MF	20%	50V
C45	1-108-251-00	MYLAR	0.1MF	5%	50V
C46	1-123-820-00	ELECT	33MF	20%	16V
C48	1-101-006-00	CERAMIC	0.047MF		50V
C49	1-101-006-00	CERAMIC	0.047MF		50V
C50	1-101-006-00	CERAMIC	0.047MF		50V
C51	1-101-006-00	CERAMIC	0.047MF		50V
C52	1-101-006-00	CERAMIC	0.047MF		50V
C54	1-101-006-00	CERAMIC	0.047MF		50V
C55	1-101-006-00	CERAMIC	0.047MF		50V
C59	1-101-006-00	CERAMIC	0.047MF		50V
C66	1-102-824-00	CERAMIC	470PF	5%	50V
C67	1-102-529-00	CERAMIC	100PF	5%	50V
C68	1-123-380-00	ELECT	1MF	20%	50V
C69	1-123-380-00	ELECT	1MF	20%	50V
C70	1-123-380-00	ELECT	1MF	20%	50V
C71	1-123-380-00	ELECT	1MF	20%	50V
C72	1-123-380-00	ELECT	1MF	20%	50V
C74	1-102-530-00	CERAMIC	120PF	5%	50V
C75	1-123-333-00	ELECT	100MF	20%	16V
C85	1-123-380-00	ELECT	1MF	20%	50V
C87	1-123-328-00	ELECT	4.7MF	20%	25V
C88	1-102-518-00	CERAMIC	33PF	5%	50V
C89	1-102-123-00	CERAMIC	0.0033MF	10%	50V
C90	1-123-330-00	ELECT	22MF	20%	16V
C91	1-123-317-11	ELECT	22MF		16V

DIODE

D1	8-719-911-19	DIODE	1SS119
D2	8-719-911-19	DIODE	1SS119
D3	8-719-911-19	DIODE	1SS119
D4	8-719-911-19	DIODE	1SS119
D5	8-719-911-19	DIODE	1SS119
D6	8-719-911-19	DIODE	1SS119
D7	8-719-901-27	DIODE	MV11VS
D8	8-719-911-19	DIODE	1SS119
D14	8-719-911-19	DIODE	1SS119
D15	8-719-911-19	DIODE	1SS119
D16	8-719-911-19	DIODE	1SS119
D18	8-719-911-19	DIODE	1SS119
D19	8-719-911-19	DIODE	1SS119
D21	8-719-911-19	DIODE	1SS119
D24	8-719-911-19	DIODE	1SS119
D25	8-719-911-19	DIODE	1SS119
D26	8-719-911-19	DIODE	1SS119
D27	8-719-100-30	DIODE	RD5.1E-B2
D29	8-719-911-19	DIODE	1SS119

Ref.No.	Part No.	Description	Remark
D30	8-719-911-19	DIODE 1SS119	
D31	8-719-911-19	DIODE 1SS119	
D32	8-719-911-19	DIODE 1SS119	

IC

IC1	8-759-145-58	IC UPD4066BC
IC2	8-759-240-53	IC TC4053BP
IC3	8-759-240-53	IC TC4053BP
IC4	8-741-111-30	IC BX1113
IC5	8-741-111-40	IC BX1114
IC6	8-759-245-28	IC TC4528BP
IC7	8-759-245-28	IC TC4528BP
IC8	8-759-245-28	IC TC4528BP
IC9	8-759-245-28	IC TC4528BP
IC12	8-759-145-58	IC UPC4558C

COIL

L1	1-408-247-00	MICRO INDUCTOR 33MMH

TRANSISTOR

Q1	8-729-603-50	TRANSISTOR 2SC403SP
Q2	8-729-603-50	TRANSISTOR 2SC403SP
Q3	8-729-603-50	TRANSISTOR 2SC403SP
Q4	8-729-603-50	TRANSISTOR 2SC403SP
Q5	8-729-603-50	TRANSISTOR 2SC403SP
Q6	8-729-204-83	TRANSISTOR 2SA1048
Q7	8-729-245-83	TRANSISTOR 2SC2458
Q8	8-729-245-83	TRANSISTOR 2SC2458
Q9	8-729-204-83	TRANSISTOR 2SA1048
Q10	8-729-245-83	TRANSISTOR 2SC2458
Q11	8-729-245-83	TRANSISTOR 2SC2458
Q12	8-729-245-83	TRANSISTOR 2SC2458
Q17	8-729-245-83	TRANSISTOR 2SC2458
Q19	8-729-245-83	TRANSISTOR 2SC2458
Q20	8-729-245-83	TRANSISTOR 2SC2458
Q22	8-729-245-83	TRANSISTOR 2SC2458
Q23	8-729-245-83	TRANSISTOR 2SC2458
Q24	8-729-245-83	TRANSISTOR 2SC2458
Q25	8-729-245-83	TRANSISTOR 2SC2458
Q26	8-729-245-83	TRANSISTOR 2SC2458
Q28	8-729-245-83	TRANSISTOR 2SC2458
Q29	8-729-245-83	TRANSISTOR 2SC2458
Q30	8-729-245-83	TRANSISTOR 2SC2458

RESISTOR

R1	1-247-799-00	CARBON	47	5%	1/6W
R2	1-247-831-00	CARBON	1K	5%	1/6W
R3	1-247-833-00	CARBON	1.2K	5%	1/6W
R4	1-247-837-00	CARBON	1.8K	5%	1/6W
R5	1-247-853-00	CARBON	8.2K	5%	1/6W
R6	1-247-841-00	CARBON	2.7K	5%	1/6W
R7	1-247-799-00	CARBON	47	5%	1/6W
R8	1-247-831-00	CARBON	1K	5%	1/6W

Ref.No.	Part No.	Description				Remark
R9	1-247-833-00	CARBON	1.2K	5%	1/6W	
R10	1-247-837-00	CARBON	1.8K	5%	1/6W	
R11	1-247-853-00	CARBON	8.2K	5%	1/6W	
R12	1-247-841-00	CARBON	2.7K	5%	1/6W	
R13	1-247-799-00	CARBON	47	5%	1/6W	
R14	1-247-833-00	CARBON	1.2K	5%	1/6W	
R15	1-247-853-00	CARBON	8.2K	5%	1/6W	
R16	1-247-841-00	CARBON	2.7K	5%	1/6W	
R17	1-247-799-00	CARBON	47	5%	1/6W	
R18	1-247-799-00	CARBON	47	5%	1/6W	
R19	1-247-799-00	CARBON	47	5%	1/6W	
R20	1-246-457-00	CARBON	220	5%	1/4W	
R21	1-246-457-00	CARBON	220	5%	1/4W	
R22	1-246-457-00	CARBON	220	5%	1/4W	
R26	1-247-799-00	CARBON	47	5%	1/6W	
R27	1-247-829-00	CARBON	820	5%	1/6W	
R28	1-247-815-00	CARBON	220	5%	1/6W	
R29	1-247-787-00	CARBON	15	5%	1/6W	
R30	1-247-815-00	CARBON	220	5%	1/6W	
R31	1-247-783-00	CARBON	10	5%	1/6W	
R32	1-247-832-00	CARBON	1.1K	5%	1/6W	
R33	1-247-818-00	CARBON	300	5%	1/6W	
R34	1-247-799-00	CARBON	47	5%	1/6W	
R35	1-247-829-00	CARBON	820	5%	1/6W	
R36	1-247-817-00	CARBON	270	5%	1/6W	
R37	1-247-787-00	CARBON	15	5%	1/6W	
R38	1-247-799-00	CARBON	47	5%	1/6W	
R39	1-247-829-00	CARBON	820	5%	1/6W	
R40	1-247-815-00	CARBON	220	5%	1/6W	
R41	1-247-787-00	CARBON	15	5%	1/6W	
R42	1-247-807-00	CARBON	100	5%	1/6W	
R43	1-247-855-00	CARBON	10K	5%	1/6W	
R44	1-247-855-00	CARBON	10K	5%	1/6W	
R45	1-247-855-00	CARBON	10K	5%	1/6W	
R46	1-214-165-00	METAL	24K	1%	1/4W	
R47	1-247-835-00	CARBON	1.5K	5%	1/6W	
R48	1-214-165-00	METAL	24K	1%	1/4W	
R49	1-247-869-00	CARBON	39K	5%	1/6W	
R51	1-214-176-00	METAL	68K	1%	1/4W	
R52	1-202-469-00	SOLID	3.9M	5%	1/4W	
R53	1-247-885-00	CARBON	180K	5%	1/6W	
R54	1-247-863-00	CARBON	22K	5%	1/6W	
R55	1-247-831-00	CARBON	1K	5%	1/6W	
R56	1-247-831-00	CARBON	1K	5%	1/6W	
R57	1-247-831-00	CARBON	1K	5%	1/6W	
R58	1-247-831-00	CARBON	1K	5%	1/6W	
R61	1-247-855-00	CARBON	10K	5%	1/6W	
R62	1-247-839-00	CARBON	2.2K	5%	1/6W	
R63	1-247-843-00	CARBON	3.3K	5%	1/6W	
R64	1-247-889-00	CARBON	270K	5%	1/6W	
R65	1-247-855-00	CARBON	10K	5%	1/6W	
R66	1-247-855-00	CARBON	10K	5%	1/6W	
R67	1-247-903-00	CARBON	1M	5%	1/6W	
R70	1-247-875-00	CARBON	68K	5%	1/6W	
R71	1-247-870-00	CARBON	43K	5%	1/6W	
R72	1-247-843-00	CARBON	3.3K	5%	1/6W	
R73	1-247-843-00	CARBON	3.3K	5%	1/6W	
R74	1-247-835-00	CARBON	1.5K	5%	1/6W	
R75	1-247-839-00	CARBON	2.2K	5%	1/6W	
R77	1-247-828-00	CARBON	750	5%	1/6W	
R79	1-247-863-00	CARBON	22K	5%	1/6W	
R80	1-247-839-00	CARBON	2.2K	5%	1/6W	
R81	1-247-823-00	CARBON	470	5%	1/6W	
R82	1-247-843-00	CARBON	3.3K	5%	1/6W	
R84	1-247-845-00	CARBON	3.9K	5%	1/6W	
R85	1-247-823-00	CARBON	470	5%	1/6W	
R86	1-247-821-00	CARBON	390	5%	1/6W	
R87	1-247-855-00	CARBON	10K	5%	1/6W	
R88	1-247-863-00	CARBON	22K	5%	1/6W	
R89	1-247-841-00	CARBON	2.7K	5%	1/6W	
R99	1-247-875-00	CARBON	68K	5%	1/6W	
R100	1-247-843-00	CARBON	3.3K	5%	1/6W	
R101	1-247-861-00	CARBON	18K	5%	1/6W	
R102	1-247-863-00	CARBON	22K	5%	1/6W	
R103	1-247-859-00	CARBON	15K	5%	1/6W	
R104	1-247-855-00	CARBON	10K	5%	1/6W	
R105	1-247-875-00	CARBON	68K	5%	1/6W	
R106	1-247-851-00	CARBON	6.8K	5%	1/6W	
R107	1-247-853-00	CARBON	8.2K	5%	1/6W	
R108	1-247-855-00	CARBON	10K	5%	1/6W	
R109	1-247-855-00	CARBON	10K	5%	1/6W	
R110	1-247-867-00	CARBON	33K	5%	1/6W	
R112	1-247-807-00	CARBON	100	5%	1/6W	
R113	1-247-807-00	CARBON	100	5%	1/6W	
R114	1-247-807-00	CARBON	100	5%	1/6W	
R115	1-247-807-00	CARBON	100	5%	1/6W	
R116	1-247-807-00	CARBON	100	5%	1/6W	
R121	1-247-873-00	CARBON	56K	5%	1/6W	
R123	1-247-835-00	CARBON	1.5K	5%	1/6W	
R124	1-247-835-00	CARBON	1.5K	5%	1/6W	
R125	1-247-887-00	CARBON	220K	5%	1/6W	
R127	1-247-831-00	CARBON	1K	5%	1/6W	
R128	1-247-831-00	CARBON	1K	5%	1/6W	
R129	1-247-831-00	CARBON	1K	5%	1/6W	
R133	1-247-807-00	CARBON	100	5%	1/6W	
R134	1-247-807-00	CARBON	100	5%	1/6W	
R135	1-247-807-00	CARBON	100	5%	1/6W	
R136	1-247-901-00	CARBON	820K	5%	1/6W	
R137	1-247-857-00	CARBON	12K	5%	1/6W	
R139	1-246-461-00	CARBON	330	5%	1/4W	
R140	1-247-855-00	CARBON	10K	5%	1/6W	
R141	1-247-845-00	CARBON	3.9K	5%	1/6W	
R143	1-247-846-00	CARBON	4.3K	5%	1/6W	
R144	1-247-855-00	CARBON	10K	5%	1/6W	
R145	1-247-817-00	CARBON	270	5%	1/6W	
R146	1-247-837-00	CARBON	1.8K	5%	1/6W	

BB **BA**

Ref.No.	Part No.	Description				Remark
R147	1-247-848-00	CARBON	5.1K	5%	1/6W	
R148	1-247-855-00	CARBON	10K	5%	1/6W	
R149	1-247-859-00	CARBON	15K	5%	1/6W	
R150	1-246-485-25	CARBON	3.3K		1/4W	
		VARIABLE RESISTOR				
RV1	1-224-487-00	RES, ADJ, METAL FILM 220				
RV2	1-224-487-00	RES, ADJ, METAL FILM 220				
RV3	1-224-487-00	RES, ADJ, METAL FILM 220				
RV4	1-226-709-00	RES, ADJ, SOLID 4.7K				
RV5	1-226-713-00	RES, ADJ, SOLID 100K				
RV7	1-226-753-00	RES, ADJ, SOLID 47K				
RV8	1-226-753-00	RES, ADJ, SOLID 47K				
RV9	1-226-713-00	RES, ADJ, SOLID 100K				
RV10	1-226-713-00	RES, ADJ, SOLID 100K				

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♦:A-1135-201-A BA BOARD, COMPLETE

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CAPACITOR

C1	1-130-632-00	FILM	0.1MF	5%	50V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-123-619-00	ELECT	4.7MF	20%	50V
C4	1-123-619-00	ELECT	4.7MF	20%	50V
C5	1-123-617-00	ELECT	10MF	20%	16V
C6	1-130-632-00	FILM	0.1MF	5%	50V
C7	1-123-617-00	ELECT	10MF	20%	16V
C9	1-101-006-00	CERAMIC	0.047MF		50V
C10	1-123-357-00	ELECT	22MF	20%	50V
C11	1-102-074-00	CERAMIC	0.001MF	10%	50V
C12	1-161-013-00	CERAMIC	0.01MF	10%	25V
C13	1-161-013-00	CERAMIC	0.01MF	10%	25V
C14	1-101-888-00	CERAMIC	68PF	5%	50V
C15	1-101-880-00	CERAMIC	47PF	5%	50V
C16	1-102-952-00	CERAMIC	16PF	5%	50V
C17	1-161-013-00	CERAMIC	0.01MF	10%	25V
C18	1-123-617-00	ELECT	10MF	20%	16V
C19	1-101-006-00	CERAMIC	0.047MF		50V
C20	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C21	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C22	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C23	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C24	1-102-679-00	CERAMIC	120PF	5%	50V
C25	1-123-617-00	ELECT	10MF	20%	16V
C26	1-102-108-00	CERAMIC	150PF	10%	50V
C27	1-101-888-00	CERAMIC	68PF	5%	50V
C28	1-101-884-00	CERAMIC	56PF	5%	50V
C29	1-102-114-00	CERAMIC	470PF	10%	50V
C30	1-102-114-00	CERAMIC	470PF	10%	50V
C31	1-102-973-00	CERAMIC	100PF	5%	50V
C32	1-130-620-00	FILM	0.01MF	5%	50V
C33	1-101-888-00	CERAMIC	68PF	5%	50V

Ref.No.	Part No.	Description			Remark
C34	1-123-617-00	ELECT	10MF	20%	16V
C36	1-102-110-00	CERAMIC	220PF	10%	50V
C37	1-102-115-00	CERAMIC	560PF	10%	50V
C38	1-123-617-00	ELECT	10MF	20%	16V
C39	1-123-617-00	ELECT	10MF	20%	16V
C42	1-101-006-00	CERAMIC	0.047MF		50V
C43	1-101-006-00	CERAMIC	0.047MF		50V
C44	1-102-971-00	CERAMIC	82PF	5%	50V
C45	1-102-973-00	CERAMIC	100PF	5%	50V
C46	1-101-004-00	CERAMIC	0.01MF		50V
C47	1-102-959-00	CERAMIC	22PF	5%	50V
C48	1-101-880-00	CERAMIC	47PF	5%	50V
C49	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C50	1-130-628-00	FILM	0.047MF	5%	50V
C51	1-130-628-00	FILM	0.047MF	5%	50V
C52	1-123-612-00	ELECT	2.2MF	20%	50V
C53	1-102-852-00	CERAMIC	47PF	5%	50V
C54	1-102-852-00	CERAMIC	47PF	5%	50V
C55	1-101-880-00	CERAMIC	47PF	5%	50V
C56	1-102-953-00	CERAMIC	18PF	5%	50V
C57	1-102-935-00	CERAMIC	2PF	0.25PF	50V
C58	1-102-971-00	CERAMIC	82PF	5%	50V
C59	1-101-004-00	CERAMIC	0.01MF		50V
C60	1-101-004-00	CERAMIC	0.01MF		50V
C61	1-101-004-00	CERAMIC	0.01MF		50V
C62	1-101-004-00	CERAMIC	0.01MF		50V
C63	1-101-004-00	CERAMIC	0.01MF		50V
C64	1-123-617-00	ELECT	10MF	20%	16V
C65	1-130-632-00	FILM	0.1MF	5%	50V
C67	1-121-257-00	ELECT	4.7MF		16V
C68	1-123-333-00	ELECT	100MF	20%	16V
C69	1-123-611-00	ELECT	1MF	20%	50V
C70	1-123-616-00	ELECT	4.7MF	20%	25V
C71	1-123-611-00	ELECT	1MF	20%	50V
C72	1-123-611-00	ELECT	1MF	20%	50V
C73	1-123-617-00	ELECT	10MF	20%	16V
C74	1-101-004-00	CERAMIC	0.01MF		50V
C75	1-123-611-00	ELECT	1MF	20%	50V
C76	1-123-333-00	ELECT	100MF	20%	16V
C78	1-101-004-00	CERAMIC	0.01MF		50V
C79	1-121-257-00	ELECT	4.7MF		16V
C80	1-102-971-00	CERAMIC	82PF	5%	50V
C81	1-102-108-00	CERAMIC	150PF	10%	50V
C82	1-102-971-00	CERAMIC	82PF	5%	50V
C83	1-102-108-00	CERAMIC	150PF	10%	50V
C84	1-123-610-00	ELECT	0.47MF	20%	50V
C85	1-130-632-00	FILM	0.1MF	5%	50V
C86	1-102-525-00	CERAMIC	68PF	5%	50V
C87	1-123-611-00	ELECT	1MF	20%	50V
C88	1-102-892-00	CERAMIC	22PF	5%	50V
C90	1-101-880-00	CERAMIC	47PF	5%	50V
C91	1-101-004-00	CERAMIC	0.01MF		50V
C92	1-101-004-00	CERAMIC	0.01MF		50V

Ref.No.	Part No.	Description			Remark
C93	1-102-892-00	CERAMIC	22PF	5%	50V
C94	1-123-611-00	ELECT	1MF	20%	50V
C95	1-123-611-00	ELECT	1MF	20%	50V
C96	1-123-611-00	ELECT	1MF	20%	50V
C97	1-123-821-00	ELECT	47MF	20%	16V
C98	1-123-612-00	ELECT	2.2MF	20%	50V
C99	1-123-617-00	ELECT	10MF	20%	16V
C100	1-101-004-00	CERAMIC	0.01MF		50V
C101	1-123-821-00	ELECT	47MF	20%	16V
C102	1-101-004-00	CERAMIC	0.01MF		50V
C103	1-130-632-00	FILM	0.1MF	5%	50V
C104	1-130-640-00	FILM	0.47MF	5%	50V
C106	1-123-617-00	ELECT	10MF	20%	16V
C107	1-101-006-00	CERAMIC	0.047MF		50V
C109	1-102-108-00	CERAMIC	150PF	10%	50V
		DIODE			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-911-19	DIODE 1SS119			
D4	8-719-911-19	DIODE 1SS119			
D5	8-719-911-19	DIODE 1SS119			
D6	8-719-911-19	DIODE 1SS119			
D7	8-719-911-19	DIODE 1SS119			
D8	8-719-911-19	DIODE 1SS119			
D9	8-719-911-19	DIODE 1SS119			
D11	8-719-911-19	DIODE 1SS119			
D12	8-719-911-19	DIODE 1SS119			
D13	8-719-911-19	DIODE 1SS119			
D14	8-719-911-19	DIODE 1SS119			
D15	8-719-911-19	DIODE 1SS119			
D16	8-719-911-19	DIODE 1SS119			
D17	8-719-911-19	DIODE 1SS119			
D18	8-719-911-19	DIODE 1SS119			
D19	8-719-911-19	DIODE 1SS119			
		DELAY LINE			
DL1	1-415-284-00	DELAY LINE (1H)			
DL2	1-415-188-00	DELAY LINE			
DL3	1-415-122-31	DELAY LINE			
		IC			
IC1	8-743-950-10	IC BX3950			
IC2	8-759-608-65	IC CX865			
IC3	8-759-240-53	IC TC4053BP			
IC5	8-759-140-24	IC UPD4024BC			
IC6	8-759-113-65	IC UPC1365C			
IC7	8-759-100-15	IC UPC1364C			
		COIL			
L1	1-408-412-00	MICRO INDUCTOR 18UH			
L2	1-408-419-00	MICRO INDUCTOR 68UH			
L4	1-408-160-00	MICRO INDUCTOR 15MMH			

Ref.No.	Part No.	Description			Remark
L5	1-408-160-00	MICRO INDUCTOR 15MMH			
L7	1-408-424-11	MICRO INDUCTOR 180UH			
L9	1-408-416-00	MICRO INDUCTOR 39UH			
L10	1-408-406-00	MICRO INDUCTOR 5.6UH			
L11	1-408-408-00	MICRO INDUCTOR 8.2UH			
		TRANSISTOR			
Q1	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q2	8-729-245-83	TRANSISTOR 2SC2458			
Q3	8-729-245-83	TRANSISTOR 2SC2458			
Q4	8-729-245-83	TRANSISTOR 2SC2458			
Q5	8-729-245-83	TRANSISTOR 2SC2458			
Q6	8-729-245-83	TRANSISTOR 2SC2458			
Q7	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q8	8-729-245-83	TRANSISTOR 2SC2458			
Q9	8-729-245-83	TRANSISTOR 2SC2458			
Q10	8-729-245-83	TRANSISTOR 2SC2458			
Q11	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q12	8-765-222-20	TRANSISTOR 2SC1963-22			
Q13	8-769-010-35	TRANSISTOR 2SK107			
Q14	8-769-010-35	TRANSISTOR 2SK107			
Q15	8-729-245-83	TRANSISTOR 2SC2458			
Q16	8-769-010-35	TRANSISTOR 2SK107			
Q17	8-769-010-35	TRANSISTOR 2SK107			
Q18	8-729-245-83	TRANSISTOR 2SC2458			
Q19	8-729-245-83	TRANSISTOR 2SC2458			
Q20	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q21	8-729-245-83	TRANSISTOR 2SC2458			
Q22	8-729-245-83	TRANSISTOR 2SC2458			
Q23	8-729-245-83	TRANSISTOR 2SC2458			
Q24	8-729-245-83	TRANSISTOR 2SC2458			
Q25	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q26	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q27	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q28	8-769-010-35	TRANSISTOR 2SK107			
Q29	8-769-010-35	TRANSISTOR 2SK107			
Q30	8-729-245-83	TRANSISTOR 2SC2458			
Q31	8-729-245-83	TRANSISTOR 2SC2458			
Q32	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q33	8-729-245-83	TRANSISTOR 2SC2458			
Q34	8-729-245-83	TRANSISTOR 2SC2458			
Q35	8-729-245-83	TRANSISTOR 2SC2458			
Q36	8-729-245-83	TRANSISTOR 2SC2458			
Q39	8-729-245-83	TRANSISTOR 2SC2458			
Q40	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q41	8-729-245-83	TRANSISTOR 2SC2458			
Q42	8-729-245-83	TRANSISTOR 2SC2458			
Q43	8-729-204-83	TRANSISTOR 2SA1048-GR			
		RESISTOR			
R1	1-247-855-00	CARBON	10K	5%	1/6W
R2	1-247-875-00	CARBON	68K	5%	1/6W
R3	1-247-873-00	CARBON	56K	5%	1/6W

BA

Ref.No.	Part No.	Description				Remark
R4	1-247-846-00	CARBON	4.3K	5%	1/6W	
R5	1-247-825-00	CARBON	560	5%	1/6W	
R6	1-247-806-00	CARBON	91	5%	1/6W	
R7	1-247-847-00	CARBON	4.7K	5%	1/6W	
R8	1-247-820-00	CARBON	360	5%	1/6W	
R9	1-247-837-00	CARBON	1.8K	5%	1/6W	
R10	1-247-828-00	CARBON	750	5%	1/6W	
R12	1-247-837-00	CARBON	1.8K	5%	1/6W	
R13	1-247-815-00	CARBON	220	5%	1/6W	
R14	1-247-835-00	CARBON	1.5K	5%	1/6W	
R15	1-247-833-00	CARBON	1.2K	5%	1/6W	
R16	1-247-825-00	CARBON	560	5%	1/6W	
R17	1-247-875-00	CARBON	68K	5%	1/6W	
R18	1-247-855-00	CARBON	10K	5%	1/6W	
R19	1-247-835-00	CARBON	1.5K	5%	1/6W	
R20	1-247-835-00	CARBON	1.5K	5%	1/6W	
R21	1-247-835-00	CARBON	1.5K	5%	1/6W	
R22	1-247-835-00	CARBON	1.5K	5%	1/6W	
R23	1-247-821-00	CARBON	390	5%	1/6W	
R24	1-247-813-00	CARBON	180	5%	1/6W	
R25	1-247-867-00	CARBON	33K	5%	1/6W	
R26	1-247-879-00	CARBON	100K	5%	1/6W	
R27	1-247-859-00	CARBON	15K	5%	1/6W	
R28	1-247-879-00	CARBON	100K	5%	1/6W	
R29	1-247-859-00	CARBON	15K	5%	1/6W	
R30	1-247-851-00	CARBON	6.8K	5%	1/6W	
R31	1-247-867-00	CARBON	33K	5%	1/6W	
R32	1-247-855-00	CARBON	10K	5%	1/6W	
R33	1-247-855-00	CARBON	10K	5%	1/6W	
R34	1-247-855-00	CARBON	10K	5%	1/6W	
R35	1-247-831-00	CARBON	1K	5%	1/6W	
R36	1-247-847-00	CARBON	4.7K	5%	1/6W	
R37	1-247-837-00	CARBON	1.8K	5%	1/6W	
R38	1-247-829-00	CARBON	820	5%	1/6W	
R39	1-247-843-00	CARBON	3.3K	5%	1/6W	
R40	1-247-843-00	CARBON	3.3K	5%	1/6W	
R41	1-247-879-00	CARBON	100K	5%	1/6W	
R42	1-247-903-00	CARBON	1M	5%	1/6W	
R43	1-247-837-00	CARBON	1.8K	5%	1/6W	
R44	1-247-825-00	CARBON	560	5%	1/6W	
R45	1-247-841-00	CARBON	2.7K	5%	1/6W	
R54	1-247-843-00	CARBON	3.3K	5%	1/6W	
R55	1-247-865-00	CARBON	27K	5%	1/6W	
R56	1-247-847-00	CARBON	4.7K	5%	1/6W	
R57	1-247-843-00	CARBON	3.3K	5%	1/6W	
R58	1-247-807-00	CARBON	100	5%	1/6W	
R59	1-247-807-00	CARBON	100	5%	1/6W	
R60	1-247-831-00	CARBON	1K	5%	1/6W	
R61	1-247-819-00	CARBON	330	5%	1/6W	
R62	1-247-831-00	CARBON	1K	5%	1/6W	
R63	1-247-841-00	CARBON	2.7K	5%	1/6W	
R64	1-247-843-00	CARBON	3.3K	5%	1/6W	
R65	1-247-827-00	CARBON	680	5%	1/6W	
R66	1-247-831-00	CARBON	1K	5%	1/6W	
R67	1-247-819-00	CARBON	330	5%	1/6W	
R68	1-247-831-00	CARBON	1K	5%	1/6W	
R69	1-247-863-00	CARBON	22K	5%	1/6W	
R72	1-247-824-00	CARBON	510	5%	1/6W	
R73	1-247-839-00	CARBON	2.2K	5%	1/6W	
R74	1-247-859-00	CARBON	15K	5%	1/6W	
R75	1-247-867-00	CARBON	33K	5%	1/6W	
R76	1-247-875-00	CARBON	68K	5%	1/6W	
R77	1-247-845-00	CARBON	3.9K	5%	1/6W	
R78	1-247-839-00	CARBON	2.2K	5%	1/6W	
R79	1-247-875-00	CARBON	68K	5%	1/6W	
R80	1-247-903-00	CARBON	1M	5%	1/6W	
R81	1-247-867-00	CARBON	33K	5%	1/6W	
R82	1-247-871-00	CARBON	47K	5%	1/6W	
R83	1-247-867-00	CARBON	33K	5%	1/6W	
R84	1-247-823-00	CARBON	470	5%	1/6W	
R85	1-247-865-00	CARBON	27K	5%	1/6W	
R86	1-247-839-00	CARBON	2.2K	5%	1/6W	
R87	1-247-865-00	CARBON	27K	5%	1/6W	
R88	1-247-903-00	CARBON	1M	5%	1/6W	
R89	1-247-827-00	CARBON	680	5%	1/6W	
R90	1-247-903-00	CARBON	1M	5%	1/6W	
R91	1-247-827-00	CARBON	680	5%	1/6W	
R92	1-247-831-00	CARBON	1K	5%	1/6W	
R93	1-247-879-00	CARBON	100K	5%	1/6W	
R94	1-247-887-00	CARBON	220K	5%	1/6W	
R95	1-247-879-00	CARBON	100K	5%	1/6W	
R96	1-247-839-00	CARBON	2.2K	5%	1/6W	
R97	1-247-855-00	CARBON	10K	5%	1/6W	
R98	1-247-867-00	CARBON	33K	5%	1/6W	
R99	1-247-835-00	CARBON	1.5K	5%	1/6W	
R100	1-247-879-00	CARBON	100K	5%	1/6W	
R101	1-247-873-00	CARBON	56K	5%	1/6W	
R102	1-247-877-00	CARBON	82K	5%	1/6W	
R103	1-247-867-00	CARBON	33K	5%	1/6W	
R104	1-247-875-00	CARBON	68K	5%	1/6W	
R105	1-247-877-00	CARBON	82K	5%	1/6W	
R106	1-247-855-00	CARBON	10K	5%	1/6W	
R107	1-247-815-00	CARBON	220	5%	1/6W	
R108	1-247-875-00	CARBON	68K	5%	1/6W	
R109	1-247-855-00	CARBON	10K	5%	1/6W	
R110	1-247-855-00	CARBON	10K	5%	1/6W	
R111	1-247-815-00	CARBON	220	5%	1/6W	
R112	1-247-871-00	CARBON	47K	5%	1/6W	
R113	1-247-867-00	CARBON	33K	5%	1/6W	
R114	1-247-815-00	CARBON	220	5%	1/6W	
R115	1-247-815-00	CARBON	220	5%	1/6W	
R116	1-247-815-00	CARBON	220	5%	1/6W	
R117	1-247-821-00	CARBON	390	5%	1/6W	
R118	1-247-823-00	CARBON	470	5%	1/6W	
R119	1-247-807-00	CARBON	100	5%	1/6W	
R120	1-247-827-00	CARBON	680	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R121	1-247-849-00	CARBON	5.6K	5%	1/6W	
R122	1-247-847-00	CARBON	4.7K	5%	1/6W	
R123	1-247-847-00	CARBON	4.7K	5%	1/6W	
R124	1-247-815-00	CARBON	220	5%	1/6W	
R125	1-247-879-00	CARBON	100K	5%	1/6W	
R126	1-247-879-00	CARBON	100K	5%	1/6W	
R127	1-247-845-00	CARBON	3.9K	5%	1/6W	
R128	1-247-867-00	CARBON	33K	5%	1/6W	
R129	1-247-835-00	CARBON	1.5K	5%	1/6W	
R130	1-247-807-00	CARBON	100	5%	1/6W	
R131	1-247-831-00	CARBON	1K	5%	1/6W	
R132	1-247-831-00	CARBON	1K	5%	1/6W	
R133	1-247-855-00	CARBON	10K	5%	1/6W	
R134	1-247-849-00	CARBON	5.6K	5%	1/6W	
R135	1-247-847-00	CARBON	4.7K	5%	1/6W	
R136	1-247-857-00	CARBON	12K	5%	1/6W	
R137	1-247-847-00	CARBON	4.7K	5%	1/6W	
R138	1-247-877-00	CARBON	82K	5%	1/6W	
R139	1-247-887-00	CARBON	220K	5%	1/6W	
R140	1-247-847-00	CARBON	4.7K	5%	1/6W	
R141	1-247-835-00	CARBON	1.5K	5%	1/6W	
R142	1-247-863-00	CARBON	22K	5%	1/6W	
R143	1-247-867-00	CARBON	33K	5%	1/6W	
R144	1-247-867-00	CARBON	33K	5%	1/6W	
R145	1-247-869-00	CARBON	39K	5%	1/6W	
R146	1-247-877-00	CARBON	82K	5%	1/6W	
R147	1-247-869-00	CARBON	39K	5%	1/6W	
R148	1-247-871-00	CARBON	47K	5%	1/6W	
R149	1-247-867-00	CARBON	33K	5%	1/6W	
R150	1-247-853-00	CARBON	8.2K	5%	1/6W	
R151	1-247-853-00	CARBON	8.2K	5%	1/6W	
R152	1-247-831-00	CARBON	1K	5%	1/6W	
R153	1-202-463-00	SOLID	2.2M	5%	1/4W	
R154	1-247-879-00	CARBON	100K	5%	1/6W	
R155	1-247-853-00	CARBON	8.2K	5%	1/6W	
R156	1-247-843-00	CARBON	3.3K	5%	1/6W	
R157	1-247-871-00	CARBON	47K	5%	1/6W	
R158	1-247-859-00	CARBON	15K	5%	1/6W	
R159	1-247-859-00	CARBON	15K	5%	1/6W	
R160	1-247-871-00	CARBON	47K	5%	1/6W	
R161	1-247-839-00	CARBON	2.2K	5%	1/6W	
R162	1-247-879-00	CARBON	100K	5%	1/6W	
R163	1-247-817-00	CARBON	270	5%	1/6W	
R164	1-247-819-00	CARBON	330	5%	1/6W	
R165	1-247-829-00	CARBON	820	5%	1/6W	
R166	1-247-865-00	CARBON	27K	5%	1/6W	
R167	1-247-859-00	CARBON	15K	5%	1/6W	
R168	1-247-835-00	CARBON	1.5K	5%	1/6W	
R169	1-247-847-00	CARBON	4.7K	5%	1/6W	
R170	1-247-871-00	CARBON	47K	5%	1/6W	
R171	1-247-859-00	CARBON	15K	5%	1/6W	
R172	1-247-875-00	CARBON	68K	5%	1/6W	
R173	1-247-847-00	CARBON	4.7K	5%	1/6W	
R174	1-247-843-00	CARBON	3.3K	5%	1/6W	
R175	1-247-843-00	CARBON	3.3K	5%	1/6W	
R176	1-247-871-00	CARBON	47K	5%	1/6W	
R177	1-247-851-00	CARBON	6.8K	5%	1/6W	
R178	1-247-875-00	CARBON	68K	5%	1/6W	
R179	1-247-867-00	CARBON	33K	5%	1/6W	
R180	1-247-831-00	CARBON	1K	5%	1/6W	
R181	1-247-855-00	CARBON	10K	5%	1/6W	
R182	1-247-871-00	CARBON	47K	5%	1/6W	
R183	1-247-843-00	CARBON	3.3K	5%	1/6W	
R184	1-247-833-00	CARBON	1.2K	5%	1/6W	
R185	1-247-826-00	CARBON	620	5%	1/6W	
R186	1-247-831-00	CARBON	1K	5%	1/6W	
R187	1-247-887-00	CARBON	220K	5%	1/6W	
R188	1-246-473-15	CARBON	1K		1/4W	
R189	1-247-847-00	CARBON	4.7K	5%	1/6W	
R190	1-247-831-00	CARBON	1K	5%	1/6W	

VARIABLE RESISTOR

RV1	1-226-753-00	RES, ADJ, SOLID 47K
RV2	1-226-753-00	RES, ADJ, SOLID 47K
RV3	1-226-706-00	RES, ADJ, SOLID 470
RV4	1-226-709-00	RES, ADJ, SOLID 4.7K
RV5	1-226-711-00	RES, ADJ, SOLID 22K
RV6	1-226-711-00	RES, ADJ, SOLID 22K
RV7	1-226-706-00	RES, ADJ, SOLID 470
RV8	1-226-709-00	RES, ADJ, SOLID 4.7K
RV9	1-226-710-00	RES, ADJ, SOLID 10K
RV10	1-226-753-00	RES, ADJ, SOLID 47K
RV11	1-226-709-00	RES, ADJ, SOLID 4.7K

COIL

T1	1-408-520-00	COIL, VARIABLE
T2	1-409-193-00	COIL 3.58MHZ TRAP
T3	1-409-193-00	COIL 3.58MHZ TRAP
T4	1-425-786-00	TRANSFORMER, BANDPASS(BPT)
T5	1-404-146-00	TRANSFORMER
T6	1-404-081-00	TRANSFOMER, DELAY ADJUST
T7	1-408-513-00	COIL (VARIABLE)
T8	1-408-532-00	COIL, VARIABLE
T9	1-408-532-00	COIL, VARIABLE

THERMESTOR

TH1	1-800-626-00	THERMISTOR

CRYSTAL

X1	1-527-396-00	CRYSTAL, OSC
X2	1-527-345-00	CRYSTAL, OSC

F

Ref.No.	Part No.	Description			Remark
♦	A-1240-422-A	F BOARD, COMPLETE **********			
♦	1-533-146-00	HOLDER, FUSE, F1			
♦	1-941-013-24	CONNECTOR ASSY, MICRO 8P			
		CAPACITOR			
C1	1-123-321-00	ELECT	220MF	20%	16V
C2	1-123-356-00	ELECT	10MF	20%	16V
C4	1-123-321-00	ELECT	220MF	20%	16V
C5	1-123-356-00	ELECT	10MF	20%	16V
C7	1-123-321-00	ELECT	220MF	20%	16V
C8	1-123-356-00	ELECT	10MF	20%	16V
C10	1-123-321-00	ELECT	220MF	20%	16V
C11	1-123-321-00	ELECT	220MF	20%	16V
C12	1-123-333-00	ELECT	100MF	20%	16V
C13	1-123-820-00	ELECT	33MF	20%	16V
C14	1-102-824-00	CERAMIC	470PF	5%	50V
C15	1-102-820-00	CERAMIC	330PF	5%	50V
C17	1-123-820-00	ELECT	33MF	20%	16V
C18	1-101-006-00	CERAMIC	0.047MF		50V
C19	1-123-617-00	ELECT	10MF	20%	16V
C20	1-123-322-00	ELECT	330MF	20%	16V
C24	1-102-852-00	CERAMIC	47PF	5%	50V
C25	1-102-527-00	CERAMIC	82PF	5%	50V
C26	1-123-617-00	ELECT	10MF	20%	16V
C27	1-123-617-00	ELECT	10MF	20%	16V
C28	1-123-617-00	ELECT	10MF	20%	16V
C29	1-123-820-00	ELECT	33MF	20%	16V
C30	1-123-617-00	ELECT	10MF	20%	16V
C31	1-123-617-00	ELECT	10MF	20%	16V
C32	1-123-617-00	ELECT	10MF	20%	16V
C33	1-123-617-00	ELECT	10MF	20%	16V
C34	1-101-004-00	CERAMIC	0.01MF		50V
C201	1-161-830-00	CERAMIC	0.0047MF		500V
C202	1-161-830-00	CERAMIC	0.0047MF		500V
C203	1-125-215-00	ELECT(BLOCK)	560MF		200V
C204	1-125-215-00	ELECT(BLOCK)	560MF		200V
C205	1-101-006-00	CERAMIC	0.047MF		50V
C206	1-101-006-00	CERAMIC	0.047MF		50V
C207	1-123-363-00	ELECT	470MF	20%	50V
C208	1-121-999-00	ELECT	10MF		160V
C209	1-123-333-00	ELECT	100MF	20%	25V
C210	1-123-333-00	ELECT	100MF	20%	25V
C211	1-123-324-00	ELECT	1000MF	20%	16V
C212	1-101-004-00	CERAMIC	0.01MF		50V
C213	1-123-613-00	ELECT	3.3MF	20%	50V
C301	1-123-820-00	ELECT	33MF	20%	16V
C302	1-123-379-00	ELECT	0.47MF	20%	50V
C303	1-123-333-00	ELECT	100MF	20%	16V
C304	1-123-379-00	ELECT	0.47MF	20%	50V
C305	1-102-824-00	CERAMIC	470PF	5%	50V
C306	1-123-332-00	ELECT	47MF	20%	25V
C307	1-123-336-00	ELECT	470MF	20%	25V
C308	1-123-332-00	ELECT	47MF	20%	25V
C309	1-108-563-00	MYLAR	0.0022MF	5%	50V
C310	1-123-332-00	ELECT	47MF	20%	25V
C311	1-123-332-00	ELECT	47MF	20%	25V
C312	1-123-333-00	ELECT	100MF	20%	16V
C313	1-123-324-00	ELECT	1000MF	20%	16V
C314	1-108-249-00	MYLAR	0.068MF	5%	50V
		DIODE			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-911-19	DIODE 1SS119			
D4	8-719-911-19	DIODE 1SS119			
D5	8-719-911-19	DIODE 1SS119			
D6	8-719-911-19	DIODE 1SS119			
D11	8-719-911-19	DIODE 1SS119			
D12	8-719-911-19	DIODE 1SS119			
D13	8-719-911-19	DIODE 1SS119			
D14	8-719-911-19	DIODE 1SS119			
D15	8-719-911-19	DIODE 1SS119			
D16	8-719-911-19	DIODE 1SS119			
D17	8-719-911-19	DIODE 1SS119			
D18	8-719-911-19	DIODE 1SS119			
D19	8-719-300-45	DIODE EM1Z			
D20	8-719-300-45	DIODE EM1Z			
D21	8-719-300-45	DIODE EM1Z			
D22	8-719-911-19	DIODE 1SS119			
D23	8-719-911-19	DIODE 1SS119			
D201	8-719-911-55	DIODE U05G			
D202	8-719-911-55	DIODE U05G			
D203	8-719-911-55	DIODE U05G			
D204	8-719-911-55	DIODE U05G			
D205	8-719-300-45	DIODE EM1Z			
D206	8-719-300-45	DIODE EM1Z			
D207	8-719-300-45	DIODE EM1Z			
D208	8-719-300-45	DIODE EM1Z			
		FUSE			
F1	⚠ 1-532-350-00	FUSE, TIME-LAG, 4A			
		CONNECTOR			
F1	♦ 1-560-467-00	PIN, CONNECTOR 4P			
F2	♦ 1-560-471-00	PIN, CONNECTOR 10P			
F3	♦ 1-560-467-00	PIN, CONNECTOR 4P			
F4	♦ 1-560-470-00	PIN, CONNECTOR 8P			
F5	♦ 1-560-470-00	PIN, CONNECTOR 8P			
F6	♦ 1-560-456-00	PIN, CONNECTOR 2P			
F7	♦ 1-560-467-00	PIN, CONNECTOR 4P			
F8	♦ 1-560-470-00	PIN, CONNECTOR 8P			
F9	♦ 1-560-471-00	PIN, CONNECTOR 10P			
F10	♦ 1-508-768-00	6P PLUG			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
F11	1-508-786-00	2P PLUG (M)	
F12	1-508-768-00	6P PLUG	
F13	1-508-765-00	3P PLUG (M)	
F14	1-560-466-00	PIN, CONNECTOR 3P	
F15	1-508-786-00	2P PLUG (M)	
F16	1-508-765-00	3P PLUG (M)	
F17	1-560-295-00	PIN, CONNECTOR 7P	
F18	1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P	
F19	1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
F20	1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)	
F21	1-560-456-00	PIN, CONNECTOR 2P	
F22	1-560-456-00	PIN, CONNECTOR 2P	
F23	1-560-456-00	PIN, CONNECTOR 2P	
F24	1-560-456-00	PIN, CONNECTOR 2P	
		IC	
IC1	8-757-948-00	IC CX7948	
IC2	8-759-208-94	IC CX894	
IC3	8-759-133-90	IC UPC339C	
IC4	8-759-170-12	IC UPC78M12H	
IC201	8-759-170-12	IC UPC78M12H	
IC202	8-759-103-93	IC UPC393C	
IC301	8-759-826-59	IC LA2600	
IC302	8-759-112-77	IC UPC1277H	
IC303	8-759-171-12	IC UPC7812H	
		TRANSISTOR	
Q1	8-729-603-30	TRANSISTOR 2SC403SP	
Q2	8-729-245-83	TRANSISTOR 2SC2458	
Q3	8-729-245-83	TRANSISTOR 2SC2458	
Q4	8-729-245-83	TRANSISTOR 2SC2458	
Q5	8-729-245-83	TRANSISTOR 2SC2458	
Q6	8-729-603-30	TRANSISTOR 2SC403SP	
Q7	8-729-245-83	TRANSISTOR 2SC2458	
Q8	8-729-245-83	TRANSISTOR 2SC2458	
Q9	8-729-245-83	TRANSISTOR 2SC2458	
Q10	8-729-245-83	TRANSISTOR 2SC2458	
Q11	8-729-603-30	TRANSISTOR 2SC403SP	
Q12	8-729-245-83	TRANSISTOR 2SC2458	
Q13	8-729-245-83	TRANSISTOR 2SC2458	
Q14	8-729-245-83	TRANSISTOR 2SC2458	
Q15	8-729-245-83	TRANSISTOR 2SC2458	
Q16	8-729-245-83	TRANSISTOR 2SC2458	
Q17	8-729-245-83	TRANSISTOR 2SC2458	
Q18	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q19	8-729-245-83	TRANSISTOR 2SC2458	
Q20	8-729-245-83	TRANSISTOR 2SC2458	
Q21	8-729-245-83	TRANSISTOR 2SC2458	
Q22	8-729-245-83	TRANSISTOR 2SC2458	
Q26	8-729-245-83	TRANSISTOR 2SC2458	
Q27	8-729-245-83	TRANSISTOR 2SC2458	
Q28	8-729-245-83	TRANSISTOR 2SC2458	
Q29	8-729-245-83	TRANSISTOR 2SC2458	
Q30	8-729-245-83	TRANSISTOR 2SC2458	
Q31	8-729-245-83	TRANSISTOR 2SC2458	
Q32	8-729-245-83	TRANSISTOR 2SC2458	
Q201	8-729-386-12	TRANSISTOR 2SB861	
Q202	8-729-245-83	TRANSISTOR 2SC2458	
Q301	8-729-204-83	TRANSISTOR 2SA1048-GR	

RESISTOR

Ref.No.	Part No.				
R1	1-214-110-00	METAL	120	1%	1/4W
R2	1-214-116-00	METAL	220	1%	1/4W
R3	1-214-128-00	METAL	680	1%	1/4W
R4	1-247-817-00	CARBON	270	5%	1/6W
R5	1-247-807-00	CARBON	100	5%	1/6W
R6	1-247-837-00	CARBON	1.8K	5%	1/6W
R7	1-247-809-00	CARBON	120	5%	1/6W
R8	1-247-839-00	CARBON	2.2K	5%	1/6W
R10	1-214-110-00	METAL	120	1%	1/4W
R11	1-214-116-00	METAL	220	1%	1/4W
R12	1-214-128-00	METAL	680	1%	1/4W
R13	1-247-817-00	CARBON	270	5%	1/6W
R14	1-247-807-00	CARBON	100	5%	1/6W
R15	1-247-837-00	CARBON	1.8K	5%	1/6W
R16	1-247-809-00	CARBON	120	5%	1/6W
R17	1-247-839-00	CARBON	2.2K	5%	1/6W
R19	1-214-110-00	METAL	120	1%	1/4W
R20	1-214-116-00	METAL	220	1%	1/4W
R21	1-214-128-00	METAL	680	1%	1/4W
R22	1-247-817-00	CARBON	270	5%	1/6W
R23	1-247-807-00	CARBON	100	5%	1/6W
R24	1-247-837-00	CARBON	1.8K	5%	1/6W
R25	1-247-809-00	CARBON	120	5%	1/6W
R26	1-247-839-00	CARBON	2.2K	5%	1/6W
R28	1-247-852-00	CARBON	7.5K	5%	1/6W
R29	1-247-843-00	CARBON	3.3K	5%	1/6W
R30	1-247-817-00	CARBON	270	5%	1/6W
R31	1-247-839-00	CARBON	2.2K	5%	1/6W
R32	1-247-845-00	CARBON	3.9K	5%	1/6W
R33	1-247-827-00	CARBON	680	5%	1/6W
R34	1-247-847-00	CARBON	4.7K	5%	1/6W
R35	1-247-855-00	CARBON	10K	5%	1/6W
R36	1-247-829-00	CARBON	820	5%	1/6W
R37	1-247-853-00	CARBON	8.2K	5%	1/6W
R38	1-247-843-00	CARBON	3.3K	5%	1/6W
R39	1-247-804-00	CARBON	75	5%	1/6W
R40	1-247-887-00	CARBON	220K	5%	1/6W
R41	1-247-843-00	CARBON	3.3K	5%	1/6W
R42	1-247-855-00	CARBON	10K	5%	1/6W
R43	1-247-847-00	CARBON	4.7K	5%	1/6W
R44	1-247-847-00	CARBON	4.7K	5%	1/6W
R45	1-247-853-00	CARBON	8.2K	5%	1/6W
R46	1-247-826-00	CARBON	620	5%	1/6W
R47	1-247-855-00	CARBON	10K	5%	1/6W
R48	1-247-847-00	CARBON	4.7K	5%	1/6W

F FB FC CR

Ref.No.	Part No.	Description				Remark
R49	1-247-903-00	CARBON	1M	5%	1/6W	
R50	1-247-831-00	CARBON	1K	5%	1/6W	
R51	1-247-855-00	CARBON	10K	5%	1/6W	
R52	1-247-831-00	CARBON	1K	5%	1/6W	
R53	1-247-874-00	CARBON	62K	5%	1/6W	
R54	1-247-866-00	CARBON	30K	5%	1/6W	
R55	1-247-855-00	CARBON	10K	5%	1/6W	
R56	1-247-855-00	CARBON	10K	5%	1/6W	
R57	1-247-831-00	CARBON	1K	5%	1/6W	
R58	1-247-804-00	CARBON	75	5%	1/6W	
R59	1-247-825-00	CARBON	560	5%	1/6W	
R60	1-247-825-00	CARBON	560	5%	1/6W	
R61	1-247-825-00	CARBON	560	5%	1/6W	
R62	1-247-867-00	CARBON	33K	5%	1/6W	
R63	1-247-867-00	CARBON	33K	5%	1/6W	
R64	1-247-807-00	CARBON	100	5%	1/6W	
R65	1-247-846-00	CARBON	4.3K	5%	1/6W	
R66	1-247-845-00	CARBON	3.9K	5%	1/6W	
R67	1-247-825-00	CARBON	560	5%	1/6W	
R68	1-247-839-00	CARBON	2.2K	5%	1/6W	
R69	1-247-863-00	CARBON	22K	5%	1/6W	
R70	1-247-873-00	CARBON	56K	5%	1/6W	
R71	1-247-839-00	CARBON	2.2K	5%	1/6W	
R72	1-247-839-00	CARBON	2.2K	5%	1/6W	
R73	1-247-839-00	CARBON	2.2K	5%	1/6W	
R74	1-247-839-00	CARBON	2.2K	5%	1/6W	
R75	1-247-855-00	CARBON	10K	5%	1/6W	
R76	1-247-839-00	CARBON	2.2K	5%	1/6W	
R77	1-247-867-00	CARBON	33K	5%	1/6W	
R78	1-247-807-00	CARBON	100	5%	1/6W	
R79	1-247-867-00	CARBON	33K	5%	1/6W	
R80	1-247-867-00	CARBON	33K	5%	1/6W	
R81	1-247-807-00	CARBON	100	5%	1/6W	
R82	1-247-867-00	CARBON	33K	5%	1/6W	
R83	1-247-807-00	CARBON	100	5%	1/6W	
R84	1-247-807-00	CARBON	100	5%	1/6W	
R85	1-247-855-00	CARBON	10K	5%	1/6W	
R86	1-247-843-00	CARBON	3.3K	5%	1/6W	
R87	1-247-867-00	CARBON	33K	5%	1/6W	
R88	1-247-843-00	CARBON	3.3K	5%	1/6W	
R89	1-247-804-00	CARBON	75	5%	1/6W	
R201	1-247-855-00	CARBON	10K	5%	1/6W	
R202	1-247-863-00	CARBON	22K	5%	1/6W	
R203	1-247-883-00	CARBON	150K	5%	1/6W	
R204	1-247-863-00	CARBON	22K	5%	1/6W	
R205	1-247-847-00	CARBON	4.7K	5%	1/6W	
R206	1-247-857-00	CARBON	12K	5%	1/6W	
R207	1-247-871-00	CARBON	47K	5%	1/6W	
R208	1-247-873-00	CARBON	56K	5%	1/6W	
R209	1-247-879-00	CARBON	100K	5%	1/6W	
R210	1-247-855-00	CARBON	10K	5%	1/6W	
R301	1-247-835-00	CARBON	1.5K	5%	1/6W	
R302	1-247-813-00	CARBON	180	5%	1/6W	
R303	1-247-839-00	CARBON	2.2K	5%	1/6W	
R304	1-247-839-00	CARBON	2.2K	5%	1/6W	
R305	1-247-837-00	CARBON	1.8K	5%	1/6W	
R306	1-247-807-00	CARBON	100	5%	1/6W	
R307	1-247-881-00	CARBON	120K	5%	1/6W	
R308	1-247-855-00	CARBON	10K	5%	1/6W	
R309	1-247-851-00	CARBON	6.8K	5%	1/6W	
R310	1-247-851-00	CARBON	6.8K	5%	1/6W	
R311	1-247-881-00	CARBON	120K	5%	1/6W	
R312	1-247-877-00	CARBON	82K	5%	1/6W	
R313	1-244-943-51	CARBON	820K	5%	1/2W	
R315	1-247-649-00	CARBON	2.2	5%	1/4W	F

CRYSTAL

X1	1-527-396-00	CRYSTAL, OSC				

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	♦:1-610-419-00	FB BOARD				
		********				
	1-536-799-00	TERMINAL BOARD, INPUT/OUTPUT B				
	♦:1-941-013-01	CONNECTOR ASSY, BOARD IN 5P				
	♦:1-941-013-02	CONNECTOR ASSY, BOARD IN 4P				

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	♦:1-610-420-00	FC BOARD				
		********				
	1-536-798-00	TERMINAL BOARD, INPUT/OUTPUT A				
	♦:1-941-013-03	CONNECTOR ASSY, BOARD IN 10P				

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	♦:A-1330-408-A	CR BOARD, CONPLETE				
		**********				
	♦:1-609-360-00	CR BOARD				
	1-526-767-00	SOCKET, CRT				
	1-556-880-42	LEAD ASSY, HIGH-VOLTAGE				

CAPACITOR

C1	1-123-331-00	ELECT	33MF	20%	25V
C2	1-123-028-00	ELECT	2.2MF		350V
C3	1-102-050-00	CERAMIC	0.01MF		500V
C4	1-102-155-00	CERAMIC	330PF	20%	2KV
C5	1-102-155-00	CERAMIC	330PF	20%	2KV
C6	1-102-155-00	CERAMIC	330PF	20%	2KV

CONNECTOR

CR1	♦:1-508-784-00	1P PLUG
CR2	♦:1-508-786-00	2P PLUG (M)
CR3	♦:1-560-466-00	PIN, CONNECTOR 3P
CR4	♦:1-560-469-00	PIN, CONNECTOR 6P

Ref.No.	Part No.	Description				Remark
		DIODE				
D1	8-719-911-19	DIODE 1SS119				
		COIL				
L1	1-407-701-00	MICRO INDUCTOR 47UH				
L2	1-407-364-00	COIL, SPOOK CHOKE				
L3	1-407-364-00	COIL, SPOOK CHOKE				
L4	1-407-694-00	MICRO INDUCTOR 12UH				
		NEON LAMP				
NL1	1-519-013-13	DISCHARGE TUBE				
		TRANSISTOR				
Q1	8-729-322-78	TRANSISTOR 2SC2278				
		RESISTOR				
R1	1-246-449-00	CARBON	100	5%	1/4W	
R2	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R3	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R4	1-246-449-00	CARBON	100	5%	1/4W	
R5	1-202-836-00	SOLID	56K	10%	1/2W	
R6	1-202-557-00	SOLID	220	5%	1/2W	
R7	1-202-823-11	SOLID	2.7K	10%	1/2W	
R8	1-202-847-00	SOLID	560K	10%	1/2W	
R9	1-202-842-11	SOLID	220K	10%	1/2W	
R10	1-202-818-00	SOLID	1K	10%	1/2W	
R11	1-202-733-00	SOLID	15M	10%	1/2W	
R12	1-202-733-00	SOLID	15M	10%	1/2W	
R13	1-202-733-00	SOLID	15M	10%	1/2W	
		SPARK GAP				
SG1	1-519-063-XX	DISCHARGING GAP				

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♦	A-1330-409-A	CG BOARD, COMPLETE				
		**********				
♦	1-609-359-00	CG BOARD				
	1-526-767-00	SOCKET, CRT				
	1-556-880-22	LEAD ASSY, HIGH-VOLTAGE				
		CAPACITOR				
C1	1-123-331-00	ELECT	33MF	20%	25V	
C2	1-123-028-00	ELECT	2.2MF		350V	
C3	1-102-050-00	CERAMIC	0.01MF		500V	
C4	1-102-155-00	CERAMIC	330PF	20%	2KV	
C5	1-102-155-00	CERAMIC	330PF	20%	2KV	
C6	1-102-155-00	CERAMIC	330PF	20%	2KV	
		CONNECTOR				
CG1	♦ 1-508-784-00	1P PLUG				
CG2	♦ 1-508-786-00	2P PLUG (M)				
CG3	♦ 1-560-466-00	PIN, CONNECTOR 3P				
CG4	♦ 1-560-469-00	PIN, CONNECTOR 6P				

Ref.No.	Part No.	Description				Remark
		DIODE				
D1	8-719-911-19	DIODE 1SS119				
		COIL				
L1	1-407-701-00	MICRO INDUCTOR 47UH				
L2	1-407-364-00	COIL, SPOOK CHOKE				
L3	1-407-364-00	COIL, SPOOK CHOKE				
L4	1-407-694-00	MICRO INDUCTOR 12UH				
		NEON LAMP				
NL1	1-519-013-13	DISCHARGE TUBE				
		TRANSISTOR				
Q1	8-729-322-78	TRANSISTOR 2SC2278				
		RESISTOR				
R1	1-246-449-00	CARBON	100	5%	1/4W	
R2	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R3	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R4	1-246-449-00	CARBON	100	5%	1/4W	
R5	1-202-836-00	SOLID	56K	10%	1/2W	
R6	1-202-557-00	SOLID	220	5%	1/2W	
R7	1-202-823-11	SOLID	2.7K	10%	1/2W	
R8	1-202-847-00	SOLID	560K	10%	1/2W	
R9	1-202-842-11	SOLID	220K	10%	1/2W	
R10	1-202-818-00	SOLID	1K	10%	1/2W	
R11	1-202-733-00	SOLID	15M	10%	1/2W	
R12	1-202-733-00	SOLID	15M	10%	1/2W	
R13	1-202-733-00	SOLID	15M	10%	1/2W	
		SPARK GAP				
SG1	1-519-063-XX	DISCHARGING GAP				

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♦	A-1330-410-A	CB BOARD, COMPLETE				
		**********				
♦	1-609-358-00	CB BOARD				
	1-526-767-00	SOCKET, CRT				
	1-556-880-52	LEAD ASSY, HIGH-VOLTAGE				
		CAPACITOR				
C1	1-123-331-00	ELECT	33MF	20%	25V	
C2	1-123-028-00	ELECT	2.2MF		350V	
C3	1-102-050-00	CERAMIC	0.01MF		500V	
C4	1-102-155-00	CERAMIC	330PF	20%	2KV	
C5	1-102-155-00	CERAMIC	330PF	20%	2KV	
C6	1-102-155-00	CERAMIC	330PF	20%	2KV	

CB **EB** **E**

Ref.No.	Part No.	Description				Remark
		CONNECTOR				
CB1	♦:1-508-784-00	1P PLUG				
CB2	♦:1-508-786-00	2P PLUG (M)				
CB3	♦:1-560-466-00	PIN, CONNECTOR 3P				
CB4	♦:1-560-469-00	PIN, CONNECTOR 6P				
		DIODE				
D1	8-719-911-19	DIODE 1SS119				
		COIL				
L1	1-407-701-00	MICRO INDUCTOR 47UH				
L2	1-407-364-00	COIL, SPOOK CHOKE				
L3	1-407-364-00	COIL, SPOOK CHOKE				
L4	1-407-694-00	MICRO INDUCTOR 12UH				
		NEON LAMP				
NL1	1-519-013-13	DISCHARGE TUBE				
		TRANSISTPR				
Q1	8-729-322-78	TRANSISTOR 2SC2278				
		RESISTOR				
R1	1-246-449-00	CARBON	100	5%	1/4W	
R2	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R3	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R4	1-246-449-00	CARBON	100	5%	1/4W	
R5	1-202-836-00	SOLID	56K	10%	1/2W	
R6	1-202-557-00	SOLID	220	5%	1/2W	
R7	1-202-823-11	SOLID	2.7K	10%	1/2W	
R8	1-202-847-00	SOLID	560K	10%	1/2W	
R9	1-202-842-11	SOLID	220K	10%	1/2W	
R10	1-202-818-00	SOLID	1K	10%	1/2W	
R11	1-202-733-00	SOLID	15M	10%	1/2W	
R12	1-202-733-00	SOLID	15M	10%	1/2W	
R13	1-202-733-00	SOLID	15M	10%	1/2W	
		SPARK GAP				
SG1	1-519-063-XX	DISCHARGING GAP				
		**********				
	♦:1-609-364-00	EB BOARD ********				
		CONNECTOR				
EB1	♦:1-506-348-XX	3P PLUG (L)				
		TRANSFORMER				
T1	⚠:1-439-316-00	TRANSFORMER, FERRITE (LOT)				

Ref.No.	Part No.	Description			Remark
	♦:A-1340-514-A	E BOARD, CONPLETE **********			
	♦:4-863-132-00	HEAT SINK (SMALL)			
		CAPACITOR			
C1	1-123-024-00	ELECT	33MF		160V
C4	1-123-337-00	ELECT	1000MF	20%	25V
C6	1-123-379-00	ELECT	0.47MF	20%	50V
C7	1-102-973-00	CERAMIC	100PF	5%	50V
C8	1-102-244-00	CERAMIC	220PF	10%	500V
C9	1-121-999-00	ELECT	10MF		160V
C10	1-123-379-00	ELECT	0.47MF	20%	50V
C11	1-102-973-00	CERAMIC	100PF	5%	50V
C12	1-102-244-00	CERAMIC	220PF	10%	500V
C13	1-121-999-00	ELECT	10MF		160V
C14	1-123-093-00	ELECT	22MF	20%	160V
C15	⚠1-130-001-00	FILM	0.009MF	5%	1.5KV
C16	1-123-252-00	ELECT	1MF		160V
C17	1-130-330-00	FILM	1.4MF	5%	200V
C18	1-130-330-00	FILM	1.4MF	5%	200V
C19	1-123-985-51	ELECT	1000MF	20%	16V
C20	⚠1-129-911-51	FILM	0.001MF	5%	1.5KV
C21	1-123-024-00	ELECT	33MF		160V
C23	1-108-907-00	MYLAR	2.2MF	10%	200V
C25	1-108-546-00	MYLAR	1.5MF	10%	400V
C26	1-129-886-51	FILM	0.0068MF	5%	1.5KV
C27	1-125-195-00	ELECT	4.7MF		100V
C28	1-124-041-51	ELECT	220MF	20%	16V
C29	1-108-563-00	MYLAR	0.0022MF	5%	50V
C30	1-124-039-51	ELECT	10MF	20%	16V
C31	1-123-973-00	ELECT	100MF	20%	16V
C32	1-123-356-00	ELECT	10MF	20%	25V
C33	1-108-583-00	MYLAR	0.015MF	5%	50V
C34	1-124-035-00	ELECT	47MF	20%	16V
C35	1-102-947-00	CERAMIC	10PF	5%	50V
C36	1-123-356-00	ELECT	10MF	20%	16V
C38	1-108-546-00	MYLAR	1.5MF	10%	400V
C39	1-108-694-61	MYLAR	0.015MF	10%	200V
C40	1-108-704-61	MYLAR	0.1MF	10%	200V
C41	1-123-359-00	ELECT	47MF	20%	50V
C42	1-123-318-00	ELECT	33MF	20%	16V
		DIODE			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-911-19	DIODE 1SS119			
D3	8-719-305-15	DIODE GH3F			
D4	8-719-928-08	DIODE ERD28-08			
D5	8-719-305-15	DIODE GH3F			
D6	8-719-100-57	DIODE RD10E-B2			
D7	8-719-300-45	DIODE EM1Z			
D8	8-719-305-15	DIODE GH3F			
D9	8-719-300-45	DIODE EM1Z			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
D10	8-719-300-45	DIODE EM1Z	
D11	8-719-911-19	DIODE 1SS119	
D12	8-719-911-19	DIODE 1SS119	
D13	8-719-911-19	DIODE 1SS119	
D14	8-719-100-35	DIODE RD5.6E-B2	
D15	8-719-300-45	DIODE EM1Z	
D16	8-719-300-45	DIODE EM1Z	
D17	8-719-812-43	DIODE TLG124A	
D18	8-719-300-45	DIODE EM1Z	
D19	8-719-000-28	THYRISTOR CR02AM-8	
D20	8-719-911-19	DIODE 1SS119	
D21	8-719-911-19	DIODE 1SS119	
D22	8-719-911-19	DIODE 1SS119	
D51	8-719-911-19	DIODE 1SS119	
D52	8-719-911-19	DIODE 1SS119	
		CONNECTOR	
E1	♦:1-506-371-00	2P PLUG (L)	
E2	♦:1-506-371-00	2P PLUG (L)	
E3	♦:1-506-371-00	2P PLUG (L)	
E4	♦:1-506-349-21	3P PLUG (L)	
E5	♦:1-506-349-21	3P PLUG (L)	
E6	♦:1-506-371-00	2P PLUG (L)	
E7	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P	
E8	♦:1-506-348-XX	6P PLUG	
E9	♦:1-506-349-21	3P PLUG (L)	
E11	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
E12	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
E13	♦:1-560-224-00	PLUG, CONNECTOR (2.5MM) 10P	
E14	♦:1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P	
		COIL	
L1	1-407-720-00	CHOKE COIL, 100UH	
L2	1-408-239-00	MICRO INDUCTOR 4.7MMH	
L3	1-407-720-00	CHOKE COIL, 100UH	
L4	1-459-348-00	COIL, VAR, FERRITE (HWC)	
L5	1-459-348-00	COIL, VAR, FERRITE (HWC)	
L6	1-459-348-00	COIL, VAR, FERRITE (HWC)	
L7	1-459-295-00	COIL, FERRITE (HLC)	
		NEON LANP	
NL1	1-519-013-13	DISCHARGE TUBE	
		TRANSISTOR	
Q1	8-729-306-92	TRANSISTOR 2SD669A	
Q2	8-729-306-92	TRANSISTOR 2SD669A	
Q3	8-729-306-92	TRANSISTOR 2SD669A	
Q4	8-729-313-82	TRANSISTOR 2SD1138	
Q5	8-729-306-92	TRANSISTOR 2SD669A	
Q6	8-729-238-32	TRANSISTOR 2SC2383	
Q7	8-729-238-32	TRANSISTOR 2SC2383	
Q8	8-729-245-83	TRANSISTOR 2SC2458	
Q9	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q10	8-729-245-83	TRANSISTOR 2SC2458	
Q11	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q12	8-729-245-83	TRANSISTOR 2SC2458	
Q13	8-729-238-32	TRANSISTOR 2SC2383	
Q14	8-729-238-32	TRANSISTOR 2SC2383	
Q15	8-729-238-32	TRANSISTOR 2SC2383	
Q16	8-729-245-83	TRANSISTOR 2SC2458	
Q17	8-729-245-83	TRANSISTOR 2SC2458	

RESISTOR

R1	1-247-807-00	CARBON	100	5%	1/6W	
R2	1-247-839-31	CARBON	2.2K	5%	1/6W	
R3	1-247-837-00	CARBON	1.8K	5%	1/6W	
R4	1-206-731-00	METAL OXIDE	1.8K	5%	3W	F
R5	1-206-439-00	METAL OXIDE	1	5%	2W	F
R6	1-247-807-00	CARBON	100	5%	1/6W	
R7	1-247-839-31	CARBON	2.2K	5%	1/6W	
R8	1-247-837-00	CARBON	1.8K	5%	1/6W	
R9	1-206-741-00	METAL OXIDE	4.7K	5%	3W	F
R10	1-206-439-00	METAL OXIDE	1	5%	2W	F
R11	1-247-831-00	CARBON	1K	5%	1/6W	
R12	1-247-831-00	CARBON	1K	5%	1/6W	
R13	1-206-479-00	METAL OXIDE	47	5%	2W	F
R14	1-206-749-00	METAL OXIDE	10K	5%	3W	F
R15	1-247-805-00	CARBON	82	5%	1/6W	
R16	1-244-885-00	CARBON	3.3K	5%	1/2W	
R17	1-244-933-00	CARBON	330K	5%	1/2W	
R18	1-247-831-00	CARBON	1K	5%	1/6W	
R19	1-214-180-00	METAL	100K	1%	1/4W	
R20	1-214-180-00	METAL	100K	1%	1/4W	

*R21	1-247-847-00	RES, CARBON 4.7K
	1-247-857-00	RES, CARBON 12K
	1-247-862-00	RES, CARBON 20K
	1-247-865-00	RES, CARBON 27K
	1-247-867-00	RES, CARBON 33K
	1-247-869-00	RES, CARBON 39K
	1-247-870-00	RES, CARBON 43K
	1-247-872-00	RES, CARBON 51K
	1-247-873-00	RES, CARBON 56K
	1-247-874-00	RES, CARBON 62K
*R22	1-247-831-00	RES, CARBON 1.0K
	1-247-833-00	RES, CARBON 1.2K
	1-247-835-00	RES, CARBON 1.5K
	1-247-837-00	RES, CARBON 1.8K
	1-247-838-00	RES, CARBON 2.0K
	1-247-839-00	RES, CARBON 2.2K
	1-247-840-00	RES, CARBON 2.4K
	1-247-841-00	RES, CARBON 2.7K
	1-247-842-00	RES, CARBON 3.0K
	1-247-843-00	RES, CARBON 3.3K
	1-247-844-00	RES, CARBON 3.6K
	1-247-845-00	RES, CARBON 3.9K
	1-247-846-00	RES, CARBON 4.3K
	1-247-847-00	RES, CARBON 4.7K

E Ec

Ref.No.	Part No.	Description				Remark
	1-247-848-00	RES, CARBON 5.1K				
	1-247-849-00	RES, CARBON 5.6K				
	1-247-850-00	RES, CARBON 6.2K				
	1-247-851-00	RES, CARBON 6.8K				
	1-247-852-00	RES, CARBON 7.5K				
	1-247-853-00	RES, CARBON 8.2K				
	1-247-854-00	RES, CARBON 9.1K				
	1-247-857-00	RES, CARBON 12K				
R23	1-247-791-00	CARBON	22	5%	1/6W	
R24	1-212-680-00	METAL	12K	1%	1/2W	
R25	1-214-162-00	METAL	18K	1%	1/4W	
R26	1-214-162-00	METAL	18K	1%	1/4W	
R27	1-214-162-00	METAL	18K	1%	1/4W	
R28	1-247-855-00	CARBON	10K	5%	1/6W	
R29	1-247-855-00	CARBON	10K	5%	1/6W	
R30	1-247-855-00	CARBON	10K	5%	1/6W	
R31	1-247-863-00	CARBON	22K	5%	1/6W	
R32	1-247-855-00	CARBON	10K	5%	1/6W	
R33	1-247-853-31	CARBON	8.2K	5%	1/6W	
R34	1-247-853-31	CARBON	8.2K	5%	1/6W	
R35	1-247-831-00	CARBON	1K	5%	1/6W	
R36	1-214-174-00	METAL	56K	1%	1/4W	
*R37	1-247-831-00	RES, CARBON 1.0K				
	1-247-833-00	RES, CARBON 1.2K				
	1-247-835-00	RES, CARBON 1.5K				
	1-247-837-00	RES, CARBON 1.8K				
	1-247-838-00	RES, CARBON 2.0K				
	1-247-839-00	RES, CARBON 2.2K				
	1-247-840-00	RES, CARBON 2.4K				
	1-247-841-00	RES, CARBON 2.7K				
	1-247-842-00	RES, CARBON 3.0K				
	1-247-843-00	RES, CARBON 3.3K				
	1-247-844-00	RES, CARBON 3.6K				
	1-247-845-00	RES, CARBON 3.9K				
	1-247-846-00	RES, CARBON 4.3K				
	1-247-847-00	RES, CARBON 4.7K				
	1-247-848-00	RES, CARBON 5.1K				
	1-247-849-00	RES, CARBON 5.6K				
	1-247-850-00	RES, CARBON 6.2K				
	1-247-851-00	RES, CARBON 6.8K				
	1-247-852-00	RES, CARBON 7.5K				
	1-247-853-00	RES, CARBON 8.2K				
	1-247-854-00	RES, CARBON 9.1K				
	1-247-857-00	RES, CARBON 12K				
*R38	1-247-847-00	RES, CARBON 4.7K				
	1-247-857-00	RES, CARBON 12K				
	1-247-862-00	RES, CARBON 20K				
	1-247-865-00	RES, CARBON 27K				
	1-247-867-00	RES, CARBON 33K				
	1-247-869-00	RES, CARBON 39K				
	1-247-870-00	RES, CARBON 43K				
	1-247-872-00	RES, CARBON 51K				
	1-247-873-00	RES, CARBON 56K				

Ref.No.	Part No.	Description				Remark
	1-247-874-00	RES, CARBON 62K				
R39	1-247-861-00	CARBON	18K	5%	1/6W	
R40	1-247-819-00	CARBON	330	5%	1/6W	
R41	1-247-863-00	CARBON	22K	5%	1/6W	
R42	1-247-863-00	CARBON	22K	5%	1/6W	
R43	1-247-839-00	CARBON	2.2K	5%	1/6W	
R44	1-247-833-00	CARBON	1.2K	5%	1/6W	
R45	1-247-831-00	CARBON	1K	5%	1/6W	
R46	1-247-837-00	CARBON	1.8K	5%	1/6W	
R47	1-206-700-00	METAL OXIDE	33K	5%	2W	F
R48	1-244-927-51	CARBON	180K	5%	1/2W	
R49	1-247-811-00	CARBON	150	5%	1/6W	
R50	1-247-831-00	CARBON	1K	5%	1/6W	
R51	1-247-895-00	CARBON	470K	5%	1/6W	
R52	1-247-839-00	CARBON	2.2K	5%	1/6W	
R53	1-247-863-00	CARBON	22K	5%	1/6W	
R54	1-206-751-00	METAL OXIDE	12K	5%	3W	F
R55	1-247-825-00	CARBON	560	5%	1/6W	
R56	1-247-863-00	CARBON	22K	5%	1/6W	
R57	1-247-865-00	CARBON	27K	5%	1/6W	
R58	1-247-843-00	CARBON	3.3K	5%	1/6W	
R59	1-247-851-00	CARBON	6.8K	5%	1/6W	
R60	1-247-847-00	CARBON	4.7K	5%	1/6W	
R61	1-247-833-00	CARBON	1.2K	5%	1/6W	
R62	1-247-829-00	CARBON	820	5%	1/6W	
R63	1-247-846-00	CARBON	4.3K	5%	1/6W	
R64	1-247-845-00	CARBON	3.9K	5%	1/6W	
R65	1-211-550-00	CARBON	1.8K	5%	1/4W	F
R66	1-211-550-00	CARBON	1.8K	5%	1/4W	F
R67	1-211-550-00	CARBON	1.8K	5%	1/4W	F
R68	1-213-141-00	METAL OXIDE	680	5%	1W	F
R69	1-244-881-51	CARBON	2.2K	5%	1/2W	
R70	1-247-831-00	CARBON	1K	5%	1/6W	
R71	1-247-831-31	CARBON	1K		1/6W	

TRANSFORMER

T1	⚠ 1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE, HDT				
T2	⚠ 1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE, HDT				
T4	⚠ 1-439-137-00	TRANSFORMER, HORIZONTAL OUTPUT, HOT				

****

♦:1-610-184-00 EC BOARD
****

♦:1-533-146-00 HOLDER, FUSE

CAPACITOR

C1	1-123-028-00	ELECT	2.2MF		350V
C2	1-123-325-00	ELECT	2200MF	20%	16V
C3	1-123-974-00	ELECT	2200MF	20%	16V
C6	1-108-427-00	MYLAR	0.033MF	10%	200V
C7	1-121-246-00	ELECT	4.7MF		160V

Ref.No.	Part No.	Description	Remark
		DIODE	
D1	8-719-901-19	DIODE V11N	
D2	8-719-301-51	DIODE S-15H	
D3	8-719-301-51	DIODE S-15H	
D6	8-719-301-51	DIODE S-15H	
D7	8-719-301-51	DIODE S-15H	
		CONNECTOR	
EC1	♦:1-560-468-00	PIN, CONNECTOR 5P	
EC2	♦:1-560-467-00	PIN, CONNECTOR 4P	
EC3	♦:1-560-469-00	PIN, CONNECTOR 6P	
EC4	♦:1-560-469-00	PIN, CONNECTOR 6P	
EC5	♦:1-560-469-00	PIN, CONNECTOR 6P	
		FUSE	
F1	⚠1-532-259-00	FUSE, TIME-LAG; 1.6A 125V	
		COIL	
L1	1-459-104-00	COIL, DUST CORE	
L2	1-459-104-00	COIL, DUST CORE	
		RESISTOR	
R1	1-244-937-00	CARBON 470K 5% 1/2W	
R2	1-206-449-00	METAL OXIDE 2.7 5% 2W	F
R3	1-206-692-00	METAL OXIDE 15K 5% 2W	F
**********			
	♦:1-610-154-00	DB BOARD ********	
		CONNECTOR	
DB1	♦:1-941-013-05	CONNECTOR ASSY, BOARD IN	
DB2	♦:1-941-013-05	CONNECTOR ASSY, BOARD IN	
DB4	♦:1-941-013-06	CONNECTOR ASSY, BOARD IN	
DB5	♦:1-941-013-06	CONNECTOR ASSY, BOARD IN	
		RESISTOR	
Q7	8-729-316-16	TRANSISTOR 2SC1061	
Q8	8-729-315-63	TRANSISTOR 2SB856	
Q11	8-729-316-16	TRANSISTOR 2SC1061	
Q12	8-729-315-63	TRANSISTOR 2SB856	
Q15	8-729-316-16	TRANSISTOR 2SC1061	
Q16	8-729-315-63	TRANSISTOR 2SB856	
Q24	8-729-313-82	TRANSISTOR 2SD1138	
Q25	8-729-386-12	TRANSISTOR 2SB861	
Q26	8-729-313-82	TRANSISTOR 2SD1138	
Q27	8-729-386-12	TRANSISTOR 2SB861	
Q28	8-729-313-82	TRANSISTOR 2SD1138	
Q29	8-729-386-12	TRANSISTOR 2SB861	

Ref.No.	Part No.	Description	Remark
	♦:1-610-155-00	ED BOARD ********	
		CONNECTOR	
ED1	♦:1-506-371-00	2P PLUG (L)	
		COIL	
L1	⚠1-421-591-00	COIL, CHOKE	
**********			
	♦:A-1340-560-A	D BOARD, COMPLETE **********	
		CAPACITOR	
C1	1-123-333-00	ELECT 100MF 20% 16V	
C3	1-123-586-00	ELECT 0.1MF 20% 50V	
C4	1-123-333-00	ELECT 100MF 20% 16V	
C5	1-123-586-00	ELECT 0.1MF 20% 50V	
C6	1-123-356-00	ELECT 10MF 20% 16V	
C7	1-101-361-00	CERAMIC 150PF 5% 50V	
C8	1-108-251-00	MYLAR 0.1MF 5% 50V	
C9	1-123-318-00	ELECT 33MF 20% 16V	
C10	1-102-820-00	CERAMIC 330PF 5% 50V	
C11	1-108-579-00	MYLAR 0.01MF 5% 50V	
C12	1-123-333-00	ELECT 100MF 20% 16V	
C13	1-123-333-00	ELECT 100MF 20% 16V	
C14	1-101-006-00	CERAMIC 0.047MF 50V	
C15	1-123-356-00	ELECT 10MF 20% 16V	
C16	1-123-356-00	ELECT 10MF 20% 16V	
C17	1-123-333-00	ELECT 100MF 20% 16V	
C18	1-101-006-00	CERAMIC 0.047MF 50V	
C19	1-123-333-00	ELECT 100MF 20% 16V	
C20	1-123-333-00	ELECT 100MF 20% 16V	
C21	1-123-333-00	ELECT 100MF 20% 16V	
C22	1-123-356-00	ELECT 10MF 20% 16V	
C23	1-123-333-00	ELECT 100MF 20% 16V	
C24	1-123-356-00	ELECT 10MF 20% 16V	
C25	1-123-333-00	ELECT 100MF 20% 16V	
C26	1-123-322-00	ELECT 330MF 20% 16V	
C27	1-102-824-00	CERAMIC 470PF 5% 50V	
C28	1-108-563-00	MYLAR 0.0022MF 5% 50V	
C29	1-108-563-00	MYLAR 0.0022MF 5% 50V	
C30	1-108-563-00	MYLAR 0.0022MF 5% 50V	
C31	1-108-567-00	MYLAR 0.0033MF 5% 50V	
C32	1-123-356-00	ELECT 10MF 20% 25V	
C33	1-123-336-00	ELECT 470MF 20% 25V	
C35	1-102-973-00	CERAMIC 100PF 5% 50V	
C36	1-102-973-00	CERAMIC 100PF 5% 50V	
C37	1-102-973-00	CERAMIC 100PF 5% 50V	
C38	1-102-973-00	CERAMIC 100PF 5% 50V	
C39	1-102-973-00	CERAMIC 100PF 5% 50V	
C40	1-102-973-00	CERAMIC 100PF 5% 50V	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

D

Ref.No.	Part No.	Description			Remark
C41	1-123-321-00	ELECT	220MF	20%	16V
C43	1-101-006-00	CERAMIC	0.047MF		50V
C44	1-101-006-00	CERAMIC	0.047MF		50V
C45	1-123-356-00	ELECT	10MF	20%	25V
C46	1-123-356-00	ELECT	10MF	20%	25V
C47	1-123-356-00	ELECT	10MF	20%	25V
C48	1-123-356-00	ELECT	10MF	20%	25V
C49	1-108-595-00	MYLAR	0.047MF	5%	50V
C50	1-108-421-00	MYLAR	0.01MF	10%	200V
C51	1-108-595-00	MYLAR	0.047MF	5%	50V
C52	1-108-421-00	MYLAR	0.01MF	10%	200V
C53	1-108-595-00	MYLAR	0.047MF	5%	50V
C54	1-108-421-00	MYLAR	0.01MF	10%	200V
C55	1-108-429-00	MYLAR	0.047MF	10%	200V
C56	1-108-579-00	MYLAR	0.01MF	5%	50V
C57	1-131-371-00	TANTALUM	10MF	10%	16V
C58	1-108-567-00	MYLAR	0.0033MF	5%	50V
C59	1-123-381-00	ELECT	2.2MF	20%	50V
C60	1-123-369-00	ELECT	4.7MF	20%	50V
C61	1-130-022-00	FILM	0.0022MF	5%	50V
C62	1-123-356-00	ELECT	10MF	20%	16V
C63	1-123-356-00	ELECT	10MF	20%	16V
C64	1-108-587-00	MYLAR	0.022MF	5%	50V
C65	1-108-251-00	MYLAR	0.1MF	5%	50V
C66	1-102-973-00	CERAMIC	100PF	5%	50V
C67	1-123-381-00	ELECT	2.2MF	20%	50V
C68	1-123-381-00	ELECT	2.2MF	20%	50V
C69	1-123-382-00	ELECT	3.3MF	20%	50V
C70	1-123-382-00	ELECT	3.3MF	20%	50V
C71	1-108-579-00	MYLAR	0.01MF	5%	50V
C72	1-123-321-00	ELECT	220MF	20%	16V
C73	1-108-555-00	MYLAR	0.001MF	5%	50V
C74	1-108-567-00	MYLAR	0.0033MF	5%	50V
C75	1-108-579-00	MYLAR	0.01MF	5%	50V
C76	1-123-379-00	ELECT	0.47MF	20%	50V
C77	1-108-591-00	MYLAR	0.033MF	5%	50V
C78	1-108-555-00	MYLAR	0.001MF	5%	50V
C79	1-101-884-00	CERAMIC	56PF	5%	50V
C80	1-102-971-00	CERAMIC	82PF	5%	50V
C81	1-101-006-00	CERAMIC	0.047MF		50V
C82	1-101-006-00	CERAMIC	0.047MF		50V
C83	1-101-006-00	CERAMIC	0.047MF		50V
C84	1-101-006-00	CERAMIC	0.047MF		50V
C85	1-102-824-00	CERAMIC	470PF	5%	50V
C86	1-102-824-00	CERAMIC	470PF	5%	50V
C87	1-102-824-00	CERAMIC	470PF	5%	50V
C88	1-102-824-00	CERAMIC	470PF	5%	50V
C89	1-102-824-00	CERAMIC	470PF	5%	50V
C90	1-102-824-00	CERAMIC	470PF	5%	50V
C91	1-108-579-00	MYLAR	0.01MF	5%	50V
C103	1-102-947-00	CERAMIC	10PF	5%	50V
C106	1-102-947-00	CERAMIC	10PF	5%	50V
C109	1-102-947-00	CERAMIC	10PF	5%	50V
C110	1-102-316-00	CERAMIC	15PF	5%	500V
C111	1-102-316-00	CERAMIC	15PF	5%	500V
C112	1-102-947-00	CERAMIC	10PF	5%	50V
C113	1-102-316-00	CERAMIC	15PF	5%	500V
C115	1-102-947-00	CERAMIC	10PF	5%	50V
C118	1-102-947-00	CERAMIC	10PF	5%	50V
C119	1-123-321-00	ELECT	220MF	20%	16V

CONNECTOR

D1	♦:1-560-467-00	PIN, CONNECTOR 4P
D2	♦:1-560-468-00	PIN, CONNECTOR 5P
D3	♦:1-560-224-00	PLUG, CONNECTOR (2.5MM) 10P
D4	♦:1-560-471-00	PIN, CONNECTOR 10P
D5	♦:1-560-470-00	PIN, CONNECTOR 8P
D6	♦:1-560-456-00	PIN, CONNECTOR 2P
D7	♦:1-560-470-00	PIN, CONNECTOR 8P
D8	♦:1-560-472-00	PIN, CONNECTOR 12P
D9	♦:1-560-472-00	PIN, CONNECTOR 12P
D11	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)
D12	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)
D13	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D14	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)
D15	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)
D16	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D17	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)
D18	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)
D19	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D21	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D22	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D23	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D24	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D25	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D26	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D27	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D28	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P
D29	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P

DIODE

D1	8-719-999-53	DIODE EQA01-05T1
D2	8-719-999-53	DIODE EQA01-05T1
D3	8-719-911-19	DIODE 1SS119
D5	8-719-911-19	DIODE 1SS119
D6	8-719-911-19	DIODE 1SS119
D10	8-719-911-19	DIODE 1SS119
D14	8-719-911-19	DIODE 1SS119
D16	8-719-911-19	DIODE 1SS119
D18	8-719-911-19	DIODE 1SS119
D20	8-719-911-55	DIODE U05G
D21	8-719-101-59	DIODE RD5.6E-L3
D22	8-719-100-30	DIODE RD5.1E-B2

Ref.No.	Part No.	Description				Remark
		IC				
IC1	8-759-240-52	IC TC4052BP				
IC2	8-759-600-02	IC M5218L				
IC3	8-749-911-21	IC BX1121				
IC4	8-741-112-20	IC BX1122				
IC5	8-759-600-02	IC M5218L				
IC7	8-759-110-37	IC UPC1037H				
IC8	8-759-110-37	IC UPC1037H				
IC9	8-759-600-02	IC M5218L				
IC10	8-759-178-12	IC UPC78L12				
IC11	8-759-178-12	IC UPC78L12				
IC12	8-759-145-58	IC UPC4558C				
IC13	8-759-145-58	IC UPC4558C				
IC14	8-749-911-20	IC BX1120				
IC15	8-759-979-16	IC CX7916				
IC16	8-759-652-14	IC M5214L				
IC17	8-759-652-14	IC M5214L				
IC18	8-759-652-14	IC M5214L				
IC19	8-759-652-14	IC M5214L				
IC20	8-759-652-14	IC M5214L				
IC21	8-759-652-14	IC M5214L				
IC22	8-759-171-12	IC UPC7812H				
IC23	8-759-179-12	IC UPC7912H				
IC24	8-759-171-08	IC UPC7808H				
IC25	8-759-179-08	IC UPC7908H				
		COIL				
L4	1-407-687-00	MICRO INDUCTOR 3.3UH				
		TRANSISTOR				
Q1	8-729-603-50	TRANSISTOR 2SC403SP				
Q6	8-729-238-32	TRANSISTOR 2SC2383				
Q10	8-729-238-32	TRANSISTOR 2SC2383				
Q14	8-729-238-32	TRANSISTOR 2SC2383				
Q17	8-729-245-83	TRANSISTOR 2SC2458				
Q21	8-729-245-83	TRANSISTOR 2SC2458				
Q22	8-729-245-83	TRANSISTOR 2SC2458				
Q23	8-729-245-83	TRANSISTOR 2SC2458				
Q30	8-729-316-16	TRANSISTOR 2SC1061				
Q31	8-729-315-63	TRANSISTOR 2SB856				
Q32	8-729-316-16	TRANSISTOR 2SC1061				
Q33	8-729-315-63	TRANSISTOR 2SB856				
Q34	8-729-316-16	TRANSISTOR 2SC1061				
Q35	8-729-315-63	TRANSISTOR 2SB856				
		RESISTOR				
R1	1-247-819-00	CARBON	330	5%	1/6W	
R2	1-247-855-00	CARBON	10K	5%	1/6W	
R3	1-213-135-00	METAL OXIDE	220	5%	1W	F
R4	1-213-135-00	METAL OXIDE	220	5%	1W	F
R5	1-247-819-00	CARBON	330	5%	1/6W	
R6	1-247-855-00	CARBON	10K	5%	1/6W	
R7	1-247-855-00	CARBON	10K	5%	1/6W	
R8	1-247-843-00	CARBON	3.3K	5%	1/6W	
R10	1-247-855-00	CARBON	10K	5%	1/6W	
R11	1-247-855-00	CARBON	10K	5%	1/6W	
R12	1-214-156-00	METAL	10K	1%	1/4W	
R13	1-214-156-00	METAL	10K	1%	1/4W	
R14	1-214-126-00	METAL	560	1%	1/4W	
R15	1-214-156-00	METAL	10K	1%	1/4W	
R16	1-214-136-00	METAL	1.5K	1%	1/4W	
R17	1-214-108-00	METAL	100	1%	1/4W	
R18	1-247-855-00	CARBON	10K	5%	1/6W	
R19	1-214-156-00	METAL	10K	1%	1/4W	
R20	1-214-156-00	METAL	10K	1%	1/4W	
R22	1-214-971-00	METAL	2M	1%	1/4W	
R23	1-247-879-00	CARBON	100K	5%	1/6W	
R24	1-247-859-00	CARBON	15K	5%	1/6W	
R26	1-214-139-00	METAL	2K	1%	1/4W	
R27	1-214-128-00	METAL	680	1%	1/4W	
R28	1-247-887-00	CARBON	220K	5%	1/6W	
R29	1-214-162-00	METAL	18K	1%	1/4W	
R30	1-214-124-00	METAL	470	1%	1/4W	
R31	1-214-140-00	METAL	2.2K	1%	1/4W	
R32	1-214-128-00	METAL	680	1%	1/4W	
R33	1-247-887-00	CARBON	220K	5%	1/6W	
R34	1-214-162-00	METAL	18K	1%	1/4W	
R35	1-214-124-00	METAL	470	1%	1/4W	
R36	1-246-446-00	CARBON	75	5%	1/4W	
R38	1-213-135-00	METAL OXIDE	220	5%	1W	F
R39	1-213-135-00	METAL OXIDE	220	5%	1W	F
R40	1-214-084-00	METAL	10	1%	1/4W	
R41	1-214-084-00	METAL	10	1%	1/4W	
R42	1-214-084-00	METAL	10	1%	1/4W	
R43	1-214-084-00	METAL	10	1%	1/4W	
R44	1-214-132-00	METAL	1K	1%	1/4W	
R45	1-214-164-00	METAL	22K	1%	1/4W	
R46	1-214-084-00	METAL	10	1%	1/4W	
R47	1-214-132-00	METAL	1K	1%	1/4W	
R48	1-214-084-00	METAL	10	1%	1/4W	
R49	1-214-084-00	METAL	10	1%	1/4W	
R50	1-214-084-00	METAL	10	1%	1/4W	
R51	1-214-164-00	METAL	22K	1%	1/4W	
R52	1-214-084-00	METAL	10	1%	1/4W	
R53	1-214-084-00	METAL	10	1%	1/4W	
R54	1-214-084-00	METAL	10	1%	1/4W	
R55	1-214-084-00	METAL	10	1%	1/4W	
R56	1-214-164-00	METAL	22K	1%	1/4W	
R57	1-213-138-00	METAL OXIDE	390	5%	1W	F
R58	1-213-138-00	METAL OXIDE	390	5%	1W	F
R59	1-213-138-00	METAL OXIDE	390	5%	1W	F
R60	1-214-088-00	METAL	15	1%	1/4W	
R61	1-214-088-00	METAL	15	1%	1/4W	
R62	1-214-088-00	METAL	15	1%	1/4W	
R63	1-214-088-00	METAL	15	1%	1/4W	

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Ref.No.	Part No.	Description				Remark
R64	1-214-164-00	METAL	22K	1%	1/4W	
R65	1-214-132-00	METAL	1K	1%	1/4W	
R66	1-214-132-00	METAL	1K	1%	1/4W	
R67	1-214-088-00	METAL	15	1%	1/4W	
R68	1-214-088-00	METAL	15	1%	1/4W	
R69	1-214-088-00	METAL	15	1%	1/4W	
R70	1-214-088-00	METAL	15	1%	1/4W	
R71	1-214-164-00	METAL	22K	1%	1/4W	
R72	1-214-152-00	METAL	6.8K	1%	1/4W	
R73	1-214-088-00	METAL	15	1%	1/4W	
R74	1-214-088-00	METAL	15	1%	1/4W	
R75	1-214-088-00	METAL	15	1%	1/4W	
R76	1-214-088-00	METAL	15	1%	1/4W	
R77	1-214-164-00	METAL	22K	1%	1/4W	
R78	1-214-132-00	METAL	1K	1%	1/4W	
R79	1-214-156-00	METAL	10K	1%	1/4W	
R80	1-214-156-00	METAL	10K	1%	1/4W	
R81	1-214-128-00	METAL	680	1%	1/4W	
R82	1-247-807-00	CARBON	100	5%	1/6W	
R83	1-247-807-00	CARBON	100	5%	1/6W	
R84	1-206-753-00	METAL OXIDE	15K	5%	3W	F
R85	1-247-783-00	CARBON	10	5%	1/6W	
R86	1-213-155-00	METAL OXIDE	10K	5%	1W	F
R87	1-212-489-00	METAL	15	1%	1/2W	
R88	1-212-489-00	METAL	15	1%	1/2W	
R89	1-212-489-00	METAL	15	1%	1/2W	
R90	1-212-489-00	METAL	15	1%	1/2W	
R91	1-214-152-00	METAL	6.8K	1%	1/4W	
R92	1-214-156-00	METAL	10K	1%	1/4W	
R93	1-214-156-00	METAL	10K	1%	1/4W	
R94	1-214-128-00	METAL	680	1%	1/4W	
R95	1-247-807-00	CARBON	100	5%	1/6W	
R96	1-247-807-00	CARBON	100	5%	1/6W	
R97	1-206-753-00	METAL OXIDE	15K	5%	3W	F
R98	1-247-783-00	CARBON	10	5%	1/6W	
R99	1-213-155-00	METAL OXIDE	10K	5%	1W	F
R100	1-212-489-00	METAL	15	1%	1/2W	
R101	1-212-489-00	METAL	15	1%	1/2W	
R102	1-212-489-00	METAL	15	1%	1/2W	
R103	1-212-489-00	METAL	15	1%	1/2W	
R104	1-214-152-00	METAL	6.8K	1%	1/4W	
R105	1-214-156-00	METAL	10K	1%	1/4W	
R106	1-214-156-00	METAL	10K	1%	1/4W	
R107	1-214-128-00	METAL	680	1%	1/4W	
R108	1-247-855-00	CARBON	10K	5%	1/6W	
R109	1-214-784-00	METAL	200K	1%	1/4W	
R110	1-206-753-00	METAL OXIDE	15K	5%	3W	F
R111	1-247-783-00	CARBON	10	5%	1/6W	
R112	1-213-155-00	METAL OXIDE	10K	5%	1W	F
R113	1-212-489-00	METAL	15	1%	1/2W	
R114	1-212-489-00	METAL	15	1%	1/2W	
R115	1-212-489-00	METAL	15	1%	1/2W	
R116	1-212-489-00	METAL	15	1%	1/2W	

Ref.No.	Part No.	Description				Remark
R118	1-214-179-00	METAL	91K	1%	1/4W	
R119	1-214-179-00	METAL	91K	1%	1/4W	
R120	1-214-166-00	METAL	27K	1%	1/4W	
R121	1-214-166-00	METAL	27K	1%	1/4W	
R122	1-214-179-00	METAL	91K	1%	1/4W	
R123	1-214-166-00	METAL	27K	1%	1/4W	
R124	1-214-138-00	METAL	1.8K	1%	1/4W	
R125	1-214-138-00	METAL	1.8K	1%	1/4W	
R126	1-214-172-00	METAL	47K	1%	1/4W	
R127	1-214-172-00	METAL	47K	1%	1/4W	
R128	1-214-138-00	METAL	1.8K	1%	1/4W	
R130	1-214-154-00	METAL	8.2K	1%	1/4W	
R131	1-214-154-00	METAL	8.2K	1%	1/4W	
R132	1-214-154-00	METAL	8.2K	1%	1/4W	
R133	1-214-174-00	METAL	56K	1%	1/4W	
R134	1-214-164-00	METAL	22K	1%	1/4W	
R135	1-214-784-00	METAL	200K	1%	1/4W	
R136	1-214-164-00	METAL	22K	1%	1/4W	
R137	1-214-784-00	METAL	200K	1%	1/4W	
R138	1-214-166-00	METAL	27K	1%	1/4W	
R139	1-214-175-00	METAL	62K	1%	1/4W	
R140	1-214-166-00	METAL	27K	1%	1/4W	
R141	1-214-175-00	METAL	62K	1%	1/4W	
R142	1-214-164-00	METAL	22K	1%	1/4W	
R145	1-214-172-00	METAL	47K	1%	1/4W	
R146	1-214-172-00	METAL	47K	1%	1/4W	
R147	1-214-168-00	METAL	33K	1%	1/4W	
R148	1-214-168-00	METAL	33K	1%	1/4W	
R149	1-214-180-00	METAL	100K	1%	1/4W	
R150	1-214-180-00	METAL	100K	1%	1/4W	
R151	1-214-160-00	METAL	15K	1%	1/4W	
R152	1-214-160-00	METAL	15K	1%	1/4W	
R153	1-214-162-00	METAL	18K	1%	1/4W	
R154	1-214-160-00	METAL	15K	1%	1/4W	
R155	1-214-168-00	METAL	33K	1%	1/4W	
R156	1-214-156-00	METAL	10K	1%	1/4W	
R157	1-214-168-00	METAL	33K	1%	1/4W	
R158	1-214-171-00	METAL	43K	1%	1/4W	
R159	1-214-172-00	METAL	47K	1%	1/4W	
R160	1-214-172-00	METAL	47K	1%	1/4W	
R161	1-214-168-00	METAL	33K	1%	1/4W	
R162	1-214-176-00	METAL	68K	1%	1/4W	
R163	1-211-409-00	CARBON	10	5%	1/8W	F
R164	1-247-030-11	CARBON	18	5%	1/8W	F
R165	1-214-180-00	METAL	100K	1%	1/4W	
R166	1-247-855-00	CARBON	10K	5%	1/6W	
R167	1-214-180-00	METAL	100K	1%	1/4W	
R168	1-214-156-00	METAL	10K	1%	1/4W	
R169	1-214-172-00	METAL	47K	1%	1/4W	
R170	1-214-172-00	METAL	47K	1%	1/4W	
R171	1-214-162-00	METAL	18K	1%	1/4W	
R172	1-214-156-00	METAL	10K	1%	1/4W	
R173	1-214-168-00	METAL	33K	1%	1/4W	

Ref.No.	Part No.	Description				Remark
R174	1-214-180-00	METAL	100K	1%	1/4W	
R176	1-214-172-00	METAL	47K	1%	1/4W	
R177	1-214-172-00	METAL	47K	1%	1/4W	
R181	1-214-132-00	METAL	1K	1%	1/4W	
R182	1-247-855-00	CARBON	10K	5%	1/6W	
R183	1-214-180-00	METAL	100K	1%	1/4W	
R184	1-247-855-00	CARBON	10K	5%	1/6W	
R185	1-214-180-00	METAL	100K	1%	1/4W	
R186	1-247-855-00	CARBON	10K	5%	1/6W	
R187	1-214-172-00	METAL	47K	1%	1/4W	
R188	1-214-172-00	METAL	47K	1%	1/4W	
R189	1-247-855-00	CARBON	10K	5%	1/6W	
R190	1-247-855-00	CARBON	10K	5%	1/6W	
R191	1-214-180-00	METAL	100K	1%	1/4W	
R192	1-214-180-00	METAL	100K	1%	1/4W	
R193	1-247-835-00	CARBON	1.5K	5%	1/6W	
R194	1-214-172-00	METAL	47K	1%	1/4W	
R195	1-247-857-00	CARBON	12K	5%	1/6W	
R196	1-247-831-00	CARBON	1K	5%	1/6W	
R197	1-214-172-00	METAL	47K	1%	1/4W	
R198	1-247-867-00	CARBON	33K	5%	1/6W	
R199	1-247-809-00	CARBON	120	5%	1/6W	
R200	1-247-877-00	CARBON	82K	5%	1/6W	
R201	1-247-843-00	CARBON	3.3K	5%	1/6W	
R202	1-247-877-00	CARBON	82K	5%	1/6W	
R203	1-247-868-00	CARBON	36K	5%	1/6W	
R204	1-247-867-00	CARBON	33K	5%	1/6W	
R205	1-247-867-00	CARBON	33K	5%	1/6W	
R206	1-247-855-00	CARBON	10K	5%	1/6W	
R207	1-247-869-00	CARBON	39K	5%	1/6W	
R208	1-247-855-00	CARBON	10K	5%	1/6W	
R211	1-247-863-00	CARBON	22K	5%	1/6W	
R212	1-247-873-00	CARBON	56K	5%	1/6W	
R213	1-247-857-00	CARBON	12K	5%	1/6W	
R214	1-247-839-00	CARBON	2.2K	5%	1/6W	
R215	1-247-831-00	CARBON	1K	5%	1/6W	
R216	1-247-807-00	CARBON	100	5%	1/6W	
R217	1-247-855-00	CARBON	10K	5%	1/6W	
R218	1-247-831-00	CARBON	1K	5%	1/6W	
R219	1-247-855-00	CARBON	10K	5%	1/6W	
R231	1-247-807-00	CARBON	100	5%	1/6W	
R241	1-247-857-00	CARBON	12K	5%	1/6W	
R242	1-247-849-00	CARBON	5.6K	5%	1/6W	
R243	1-247-851-00	CARBON	6.8K	5%	1/6W	
R244	1-247-831-00	CARBON	1K	5%	1/6W	
R245	1-247-857-00	CARBON	12K	5%	1/6W	
R246	1-247-849-00	CARBON	5.6K	5%	1/6W	
R247	1-247-851-00	CARBON	6.8K	5%	1/6W	
R248	1-247-831-00	CARBON	1K	5%	1/6W	
R249	1-213-135-00	METAL OXIDE	220	5%	1W	F
R252	1-214-180-00	METAL	100K	1%	1/4W	
R253	1-247-835-00	CARBON	1.5K	5%	1/6W	
R255	1-247-841-00	CARBON	2.7K	5%	1/6W	

Ref.No.	Part No.	Description				Remark
R257	1-212-489-00	METAL	15	1%	1/2W	
R258	1-212-489-00	METAL	15	1%	1/2W	
R259	1-212-489-00	METAL	15	1%	1/2W	
R260	1-212-489-00	METAL	15	1%	1/2W	
R261	1-212-489-00	METAL	15	1%	1/2W	
R262	1-212-489-00	METAL	15	1%	1/2W	
R268	1-214-168-00	METAL	33K	1%	1/4W	
R269	1-247-843-00	CARBON	3.3K	5%	1/6W	
R270	1-247-807-00	CARBON	100	5%	1/6W	
R271	1-247-807-00	CARBON	100	5%	1/6W	
R274	1-247-819-00	CARBON	330	5%	1/6W	
R276	1-247-807-00	CARBON	100	5%	1/6W	
R277	1-247-807-00	CARBON	100	5%	1/6W	
R278	1-214-139-00	METAL	2K	1%	1/4W	
R279	1-214-139-00	METAL	2K	1%	1/4W	
R280	1-214-150-00	METAL	5.6K	1%	1/4W	
R282	1-214-132-00	METAL	1K	1%	1/4W	
R283	1-247-807-00	CARBON	100	5%	1/6W	
R284	1-247-807-00	CARBON	100	5%	1/6W	
R287	1-247-819-00	CARBON	330	5%	1/6W	
R289	1-247-807-00	CARBON	100	5%	1/6W	
R290	1-247-807-00	CARBON	100	5%	1/6W	
R293	1-247-819-00	CARBON	330	5%	1/6W	
R295	1-247-807-00	CARBON	100	5%	1/6W	
R296	1-247-807-00	CARBON	100	5%	1/6W	
R297	1-214-158-00	METAL	12K	1%	1/4W	
R298	1-214-139-00	METAL	2K	1%	1/4W	
R299	1-247-819-00	CARBON	330	5%	1/6W	
R300	1-247-819-00	CARBON	330	5%	1/6W	
R301	1-247-807-00	CARBON	100	5%	1/6W	
R302	1-247-807-00	CARBON	100	5%	1/6W	
R305	1-247-819-00	CARBON	330	5%	1/6W	

VARIABLE RESISTOR

RV1	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV2	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV3	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV4	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV5	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV6	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV7	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV8	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV9	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV10	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV11	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV12	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV13	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV14	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV15	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV16	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV17	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV18	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K
RV19	1-224-251-XX	RES, ADJ, METAL GLAZE	4.7K

D HA HB

Ref.No.	Part No.	Description	Remark
RV20	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV21	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV22	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV23	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV24	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV25	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV26	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV27	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV28	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV29	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV30	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV31	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV32	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV33	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV34	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV35	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV36	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV37	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV38	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV39	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV40	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV41	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV42	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV43	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV44	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV45	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV46	1-224-253-XX	RES, ADJ, METAL GLAZE 22K	
RV47	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV48	1-224-251-XX	RES, ADJ, METAL GLAZE 4.7K	
RV50	1-224-254-XX	RES, ADJ, METAL GLAZE 47K	
RV51	1-224-254-XX	RES, ADJ, METAL GLAZE 47K	
		SWITCH	
SW1	1-553-537-21	SWITCH, SLIDE	
SW2	1-553-537-21	SWITCH, SLIDE	
SW3	1-553-537-21	SWITCH, SLIDE	
SW4	1-553-537-21	SWITCH, SLIDE	
SW5	1-553-537-21	SWITCH, SLIDE	
SW6	1-553-537-21	SWITCH, SLIDE	
SW7	1-554-320-00	SWITCH, SLIDE	
SW8	1-554-319-00	SWITCH, SLIDE	

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♦:1-609-357-00 HA BOARD
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♦:1-941-013-04 CONNECTOR ASSY, BOARD IN 4P

CONNECTOR

HA1	♦:1-560-462-00	PIN, CONNECTOR 6P	
HA2	♦:1-560-461-00	PIN, CONNECTOR 5P	
HA3	♦:1-560-455-00	PIN, CONNECTOR 2P	
HA4	♦:1-560-460-00	PIN, CONNECTOR 4P	

Ref.No.	Part No.	Description			Remark
		RESISTOR			
R2	1-247-862-00	CARBON 20K	5%	1/6W	
R4	1-247-878-00	CARBON 91K	5%	1/6W	
R5	1-247-875-00	CARBON 68K	5%	1/6W	
R6	1-247-865-00	CARBON 27K	5%	1/6W	
R8	1-247-887-00	CARBON 220K	5%	1/6W	
R9	1-247-881-00	CARBON 120K	5%	1/6W	
R10	1-247-865-00	CARBON 27K	5%	1/6W	
R15	1-247-874-00	CARBON 62K	5%	1/6W	
R16	1-247-867-00	CARBON 33K	5%	1/6W	
R17	1-247-885-00	CARBON 180K	5%	1/6W	
R18	1-247-881-00	CARBON 120K	5%	1/6W	
		VARIABLE RESISTOR			
RV1	1-228-938-00	RES, VAR, CARBON 20K			
RV2	1-228-938-11	RES, VAR, CARBON 20K			
RV3	1-228-937-00	RES, VAR, CARBON 20K			
RV4	1-228-937-00	RES, VAR, CARBON 20K			
RV5	1-228-937-00	RES, VAR, CARBON 20K			
RV6	1-228-938-00	RES, VAR, CARBON 20K			
RV7	1-228-936-00	RES, VAR, CARBON 10K			
		SWITCH			
SW1	1-552-737-00	SWITCH, PUSH			
SW2	1-554-499-00	SWITCH, PUSH 2 KEY#			
SW3	1-514-633-00	SLIDE SWITCH			

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♦:1-609-356-00 HB BOARD
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		CAPACITOR			
C1	1-123-620-00	ELECT 10MF	20%	25V	
C2	1-123-620-00	ELECT 10MF	20%	25V	
		CONNECTOR			
HB1	♦:1-560-463-00	PIN, CONNECTOR 8P			
		VARIABLE RESISTOR			
RV1	1-230-145-00	RES, VAR, CARBON 5K			
RV2	1-230-145-00	RES, VAR, CARBON 5K			
RV3	1-230-145-00	RES, VAR, CARBON 5K			
RV4	1-230-145-00	RES, VAR, CARBON 5K			
		SWITCH			
SW1	1-516-970-00	SWITCH, SLIDE			

Ref.No.	Part No.	Description	Remark
	♦:1-610-153-00	HC BOARD	
		********	
	♦:4-362-612-00	HOLDER (B), LED	
		DIODE	
D1	8-719-909-20	DIODE GL-9NG2	
		**********	
		MISCELLANEOUS	
		**********	
	⚠ 1-217-183-00	RES, WIREWOUND 2.7 (R907)	
	⚠.1-230-089-21	RESISTOR ASSY, HIGH-VOLTAGE (FOCUS BLOCK)	
	⚠ 1-235-225-00	FILTER, NOISE (L.F.T)	
	⚠.1-413-152-00	SWITCHING REGULATOR (TK-03)	
	⚠.1-451-243-11	DEFLECTION YOKE (SY-130A)	
	⚠.1-452-302-00	CRT NECK ASSEMBLY	
	⚠.1-453-095-00	DC BLOCK, HIGH-VOLTAGE (FBT)	
	1-536-378-XX	L-TYPE TERMINAL STRIP	
	1-536-379-11	2L1-TYPE TERMINAL STRIP	
	1-536-4?1-XX	L-TYPE TERMINAL STRIP	
	♦:1-941-013-07	CONNECTOR ASSY, MINIATURE 2P	
	♦:1-941-013-08	CONNECTOR ASSY, MINIATURE 6P	
	♦:1-941-013-09	CONNECTOR ASSY, MICRO 3P	
	♦:1-941-013-10	CONNECTOR ASSY, MINIATURE 2P	
	♦:1-941-013-11	CONNECTOR ASSY, MINIATURE 2P	
	♦:1-941-013-12	CONNECTOR ASSY, MINIATURE 2P	
	♦:1-941-013-13	CONNECTOR ASSY, MINIATURE 2P	
	♦:1-941-013-14	CONNECTOR ASSY, MICRO 8P	
	♦:1-941-013-15	CONNECTOR ASSY, LARGE 2P	
	♦:1-941-013-16	CONNECTOR ASSY, MICRO 5P	
	♦:1-941-013-17	CONNECTOR ASSY, LARGE 3P	
	♦:1-941-013-18	CONNECTOR ASSY, LARGE 6P	
	♦:1-941-013-19	CONNECTOR ASSY, MICRO 4P	
	♦:1-941-013-20	CONNECTOR ASSY, MINIATURE 6P	
	♦:1-941-013-21	CONNECTOR ASSY, MICRO 3P	
	♦:1-941-013-22	CONNECTOR ASSY, MICRO 3P	
	♦:1-941-013-23	CONNECTOR ASSY, MICRO 4P	
	⚠.8-736-051-05	CRT SD-130(G)(V901G)	
	⚠.8-736-052-05	CRT SD-130(B)(V901B)	
	⚠.8-736-053-05	CRT SD-130(R)(V901R)	
CNJ1	⚠.1-509-547-00	3P INLET, AC IN	
CNJ2	1-556-937-00	CONNECTOR ASSY, MULTI	
CNJ9	1-509-095-00	8P MULTI SOCKET	
C901	1-102-327-00	CAP, CERAMIC 330PF 1.5K 15%	
C902	1-102-327-00	CAP, CERAMIC 330PF 1.5K 15%	
C903	1-102-327-00	CAP, CERAMIC 330PF 1.5K 15%	
C904	1-102-327-00	CAP, CERAMIC 330PF 1.5K 15%	
C905	1-102-327-00	CAP, CERAMIC 330PF 1.5K 15%	
C906	1-102-327-00	CAP, CERAMIC 330PF 1.5K 15%	
C911	1-130-545-00	FILM 0.008MF	
D911	8-719-903-09	DIODE V30N	

Ref.No.	Part No.	Description	Remark
R901	1-202-822-00	RES, SOLID 2.2K 10% 1/2W	
R902	1-202-822-00	RES, SOLID 2.2K 10% 1/2W	
R903	1-202-822-00	RES, SOLID 2.2K 10% 1/2W	
R904	1-202-822-00	RES, SOLID 2.2K 10% 1/2W	
R905	1-202-822-00	RES, SOLID 2.2K 10% 1/2W	
R906	1-202-822-00	RES, SOLID 2.2K 10% 1/2W	
R911	1-202-846-00	SOLID 470K 1/2W	
R912	1-202-846-00	SOLID 470K 1/2W	
R913	1-202-846-00	SOLID 470K 1/2W	
Q901	8-729-301-62	TRANSISTOR 2SC1116A	
Q902	8-729-301-32	TRANSISTOR 2SC1413A	
Q903	8-729-301-32	TRANSISTOR 2SC1413A	
SG1	1-519-063-XX	DESCHARGING GAP	
SG2	1-519-063-XX	DESCHARGING GAP	
SG3	1-519-063-XX	DESCHARGING GAP	
SG4	1-519-063-XX	DESCHARGING GAP	
SG5	1-519-063-XX	DESCHARGING GAP	
SG6	1-519-063-XX	DESCHARGING GAP	
SP1	1-503-255-00	SPEAKER	
SP2	1-503-255-00	SPEAKER	
SW1	⚠.1-553-330-21	SWITCH, PUSH (POWER)	
SW2	⚠.1-552-535-00	SWITCH, POWER VOLTAGE CHANGE	
T1	⚠.1-447-612-00	TRANSFORMER, POWER	

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ACCESSORIES AND PACKING MATERIALS

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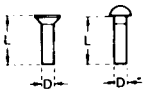
Part No.	Description	Remark
⚠.1-551-258-11	CORD, POWER	
3-701-360-00	LABEL, TACK	
3-701-627-00	BAG, POLYETHYLENE	
4-349-251-00	BAG, PROTECTION	
4-362-853-00	LABEL, VOLTAGE	
4-362-862-00	INDIVIDUAL CARTON (VPH-1020QM ONLY)	
4-362-864-00	INDIVIDUAL CARTON (VPH-722QM ONLY)	
4-362-870-00	CUSHION (UPPER) (ASSY)	
4-362-871-00	CUSHION (LOWER) (ASSY)	
4-491-697-11	MANUAL, INSTRUCTION	
4-493-829-11	MANUAL, INSTRUCTION	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

HARDWARE NOMENCLATURE

Screw: – P 3 x 10

- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only. Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring: N 3

- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

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